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The EDITOR'S CORNER

JOIN HANDS ON TECHNICAL INVESTIGATION

THAT the brick and tile section of the clay products industry is still without a definite program for research and investigation, is disconcerting and reflects, we believe, upon the manufacturer's breadth of vision. The refractories division and the terra cotta section have shown remarkable progress in the advancement of manufacturing methods largely as a direct result of the technical investigations which have been fostered by associations representing these industries.

The need for lower costs of burning, drying, mechanical handling of green clay ware and burned products, the improvement of plant layout, the location of machinery, and so forth, are all subjects worthy of intensive research. The importance of this work is admitted on all sides. The question is how to get at it and finance it.

The plan has already been suggested and is modeled on the present method of handling the freight rate case. Three national associations in the clay products manufacturing industry have joined hands in this fight. They were able to command the means to finance the procedure and proceeded to employ the best legal talent available. Likewise the way to get research work done that needs to be accomplished, is for the various national clay products associations to form a special technical investigation committee and appropriate the necessary funds for such work to be accomplished in the best manner.

An example where such a committee could do the clay manufacturers a great deal of good was exhibited in a conference of several clay manufacturers with a representative of one of the continuous tunnel kiln companies. The various clay manufacturers taking part in this conference considered favorably the possibility of lowering their costs by using this kiln, but due to the large investment were afraid to attempt the undertaking alone. If twenty of these manufacturers had contributed to a fund for the investigation of the possibilities of this kiln the cost per capita would have been comparatively small, and a satisfactory solution of determining the value of the kiln and the savings to be expected, could have been ascertained.

It is time to find some methods of reducing costs now and we again urge the industry to consider earnestly the plan of doing cooperative research work under the directions of the various national clay associations and by a special committee with funds sufficient to do justice to the work.

* * *

ON LOWERING PRICES

IN PUBLIC statements, in testimony before the senate committee, or in private conversations, producers of building materials are a unit in stating that reductions at the present time are not justified by lower costs. However, opinion seems to be common that lower costs will be justified in the course of a few months. In fact, forces are now at work that should reflect a reduction in the prices of building materials within a comparatively short period. Labor has accepted a lower wage scale and coal operators are actually soliciting business instead of struggling to make delivery on orders.

The lower costs of labor and fuel, however, will not be reflected in the prices of materials until some time later. This is unfortunate in many respects since it promises to delay building activity.

There is a lack of confidence in the stability of present day costs, and a conviction that construction costs will soon be much lower. Any great amount of private construction activity would come largely from the erection of individual homes and small flat buildings and the builders of such projects are governed largely by their own opinion of conditions in general rather than by any knowledge they may have of conditions in the building industry. People recall that building material prices have been receding but 8 per cent., while textiles have gone back 35 per cent., farm products 30 per cent., etc. These figures are in the public's mind and as long as they believe that the construction industry has not done its share, they will wait until building costs go still lower. Steps must be taken to change this attitude as it may be the cause of a great delay in the revival of construction activity.

The longer the period of readjustment in building materials prices, the greater will be the delay and the less the new work that will be undertaken in the coming year. In view of these facts it seems that the wise thing to do is to make immediate surveys in every line, to determine the level at which the prices can be maintained during the year.

It is our opinion that it would be a good thing for the clay industry as a whole, if the various units would make any price reductions anticipated for the year, *at this time.* These new prices should then be advertised widely and guaranteed, if possible, as the stabilized prices for the coming year.

There are naturally, a large number of manufacturers who do not look favorably upon this plan since it involves a loss on the materials already in stock. On the other hand, there are a great number of manufacturers who accept the theory expounded by Roger Babson and other economists on the advisability of accepting losses now. The losses, it is claimed, will be offset by a quicker change to healthy business conditions that will continue on the ascendency.

In making a survey to determine the level at which prices can be maintained for the year every factor which goes to reduce costs should be considered, such as improved transportation, cheaper coal, reduced labor costs due to wage reductions or increased efficiency and lower interest rates on investment. The price, when determined, should be put into immediate effect even at a cost of temporary loss. This is not a matter of charity to prospective builders. It is purely a problem in merchandising.

In making these recommendations there is need for sounding a note of warning. Too frequently in the past, manufacturers have disregarded production costs—mostly because they did not know them—and have sold their products below the line. This state of affairs is just as unhealthy as inflated prices.

* * *

BUILDING ACTIVITY THE KEYSTONE TO FUTURE PROSPERITY.

WELCOME, INDEED, is the change in attitude on the part of the daily press towards the building situation. Three months ago newspapers were decrying the high cost of building materials and advocating a delay in construction activity in the hope of accomplishing the same results as in the case of such commodities as food, clothing and luxuries. However, with the turn of the year, a decidedly different attitude is being taken and newspapers are now advocating that building construction move on.

This augers well for the clay products manufacturing industry.

Everybody knows that the post-war prosperity was due to the great potential demand that was stored up at a time when the nation was producing chiefly war materials. This potential demand has been spent and every industry has caught up with the nation's needs—except building. The prosperity of the country is, therefore, contingent upon construction activity. The banks know it, the newspapers realize it, and the general public will soon agree.

The building of new homes will mean that there will be a separation of the families that lived together during the past few years. Where two or more families live together they use the same set of dishes, the same piano, victrola, the same set of chairs, tables, stoves, curtains, carpets, magazines, and so forth.

The separation of families will mean the purchase of new sets of each of these commodities. Hence, the building of homes will not only employ a lot of workmen, use a lot of building materials, but will also mean the purchase of such commodities as mentioned above, which will mean good business for everybody.

If your banker and local newspaper are not aware that the country's prosperity is contingent upon the building industry, prove it to them that such is the case.

* * *

A WELCOME IMPROVEMENT

RAILROAD operation, to the gratification of industry, has just completed a record year of achievement in the history of America's transportation systems. A comparison of the two periods, that when the railroads were operated by the former railroad administration and the period since the return to private corporations, reveals records of great credit to private ownership. Among these is the achievements of the carriers in repairing their rolling stock and in the loading and moving of freight cars.

When the railroad companies resumed operation it was found that, due to intensive use during the existence of war conditions, a considerable number of cars and locomotives were in bad order. Out of 265,000 cars that were out of service, approximately 90,000 have been repaired or rebuilt. Furthermore, cars were unevenly distributed with small regard for the need of traffic.

A large volume of grain from 1919 remained on hand, an amount of business was offered to the roads which it seemed was beyond their ability to move, and coal stocks were entirely depleted. In addition to this the railroads were handicapped by labor troubles. Yet, in the face of all these facts, carriers have increased transportation capacity to such an extent, which if produced thru the addition of new cars and locomotives, would have meant an expenditure of approximately $2,000,000,000.

The carloading average at the time when the government relinquished control of the railroads on March 1, 1920 was, 28.3 tons. This has been increased 1.7 tons per average load per car so that at the present time the car loading average is thirty tons. Also, the average movement per freight car per day has been increased 6.3 miles or from 22.3 to 28.6 miles. This amounts to an increase of 28.2 per cent.

The help of the shipper in promptly loading and unloading cars is partly responsible for the good results obtained by the railroads. However, the record of the carriers in the brief period following the termination of government administration is a credit to private control.

* * *

PRE-WAR COST DATA JUNKED

WITH a downward price movement in progress for all important classes of raw materials, and with a similar tendency being manifested with regard to certain lines of building material, the clay products manufacturer is interested in the new level that clay products will take and the new relationship of this level with the new positions assumed by competitive materials such as lumber and cement.

Before the war there existed a certain relationship between these three basic building commodities. That is, the price of these building materials were such that a structure built of cement cost a certain amount more than one built of lumber, and similarly, the same structure built of clay products cost so much more than that built of concrete.

During the war and post-war periods prices increased so that these relationships were destroyed and whereas the index price of lumber went up from 100 to 320, clay products only went to 280 and cement to 220. These are arbitrary figures and are incorrect, but show the nature of the increases.

In the downward price movement, lumber has exhibited a much greater fall than other commodities. Some clay products manufacturers have expressed themselves of the belief that the new price level of clay products will have to be of the same proportion higher than lumber than it was in 1914 altho on a higher level. However, conditions among the factors that govern prices have changed so greatly since 1914, that a uniform return to the pre-war price level is hardly possible.

Some of the factors which govern the cost of cement do not effect lumber, and similarly, some factors effecting the price of clay products do not effect the cost of cement. For instance, lumber is not effected by the cost of coal. On the other hand, some classes of lumber are effected seriously by the new freight rate increases. The development within the industry thru the use of new and labor saving equipment has brought about differences that will effect the new price relationship.

It must be perfectly obvious that such factors as coal, labor, machinery, freight rates, and so forth, have effected the various commodities differently so that the pre-war relationship between prices of lumber, cement and clay products is absolutely destroyed and the same relationship, even on a higher level, is unlikely.

* * *

PACK YOUR GRIP

CONVENTION time is here again. Last year the clay products manufacturer made a lot of money. This year he stands in the way of doing the same. Right now he is not doing anything. He has plenty of time on his hands. Hence, conditions are conducive for very successful meetings. The assemblage of clay producers all over the country to the meeting places will as usual result in an interchange of experiences and cannot help but be of enormous benefit to the business as a whole as well as to the individual producer.

The annual meetings of the various associations also offers an opportunity to renew old acquaintanceships and make new friendships. Every one should take the opportunity this year to attend the conventions and gain the advantage of the opportunity to intermingle with fellow tradesmen and broaden his knowledge within the industry.

ARE YOU GOING t

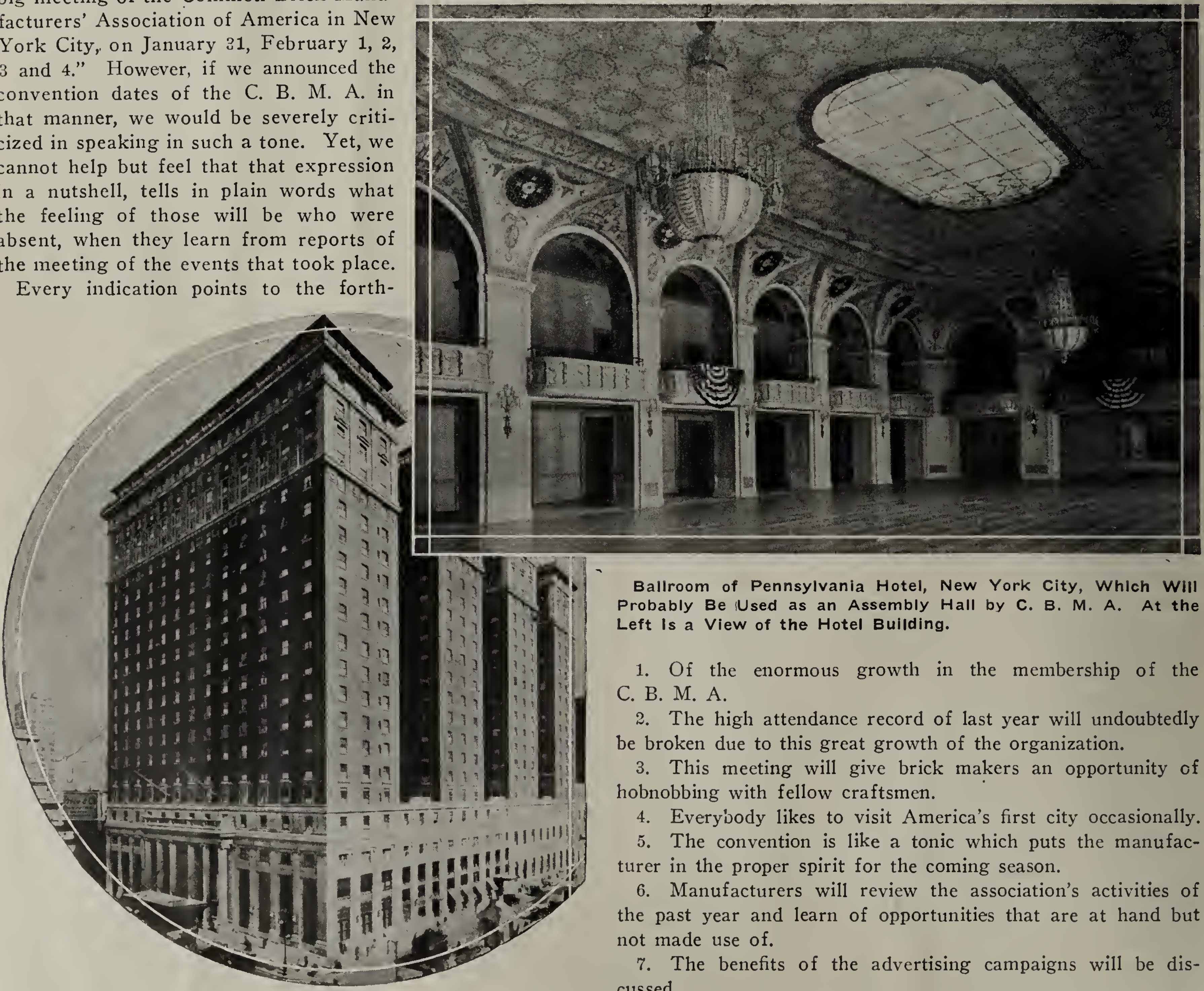
> "I believe a splendid reason why every manufacturer should attend the C. B. M. A. convention in New York, is that it would be the brightening up of each man's spirit as to his business, which is bound to become more or less sluggish during a year of absence from fellow brickmakers.
>
> "A very good reason why every common brickmaker should belong to the C. B. M. A. is the same reason that the states of the United States should belong to the Union. The past experience of the industry without any head, and continued retrogression instead of progression, should be sufficient evidence that every common brickmaker should belong to this association."—R. E. Buckles, Manager, Okmulgee (Okla.) Brick Co.

The 1921 Meeting Will Be the Greatest in the History of the Common Brick Business—Two Big Surprises to be Sprung Affecting Both Product and Market

WE WERE on the verge of starting this article along these lines: "You will be sorry later if you don't attend the big meeting of the Common Brick Manufacturers' Association of America in New York City, on January 31, February 1, 2, 3 and 4." However, if we announced the convention dates of the C. B. M. A. in that manner, we would be severely criticized in speaking in such a tone. Yet, we cannot help but feel that that expression in a nutshell, tells in plain words what the feeling of those will be who were absent, when they learn from reports of the meeting of the events that took place.

Every indication points to the forthcoming meeting, which will be held at the well known Hotel Pennsylvania, the largest hotel in the nation's largest city, as being the most momentous and important ever held as far as the common brick industry of America is concerned.

The stage is set for such a meeting. We say this because:



Ballroom of Pennsylvania Hotel, New York City, Which Will Probably Be Used as an Assembly Hall by C. B. M. A. At the Left Is a View of the Hotel Building.

1. Of the enormous growth in the membership of the C. B. M. A.
2. The high attendance record of last year will undoubtedly be broken due to this great growth of the organization.
3. This meeting will give brick makers an opportunity of hobnobbing with fellow craftsmen.
4. Everybody likes to visit America's first city occasionally.
5. The convention is like a tonic which puts the manufacturer in the proper spirit for the coming season.
6. Manufacturers will review the association's activities of the past year and learn of opportunities that are at hand but not made use of.
7. The benefits of the advertising campaigns will be discussed.
8. A platform will be molded of the plans to be followed during the course of the next year.
9. Two big surprises will be sprung, one which affects

NEW YORK CITY?

Enjoy a Brief Sojourn in America's Notable City—Cement a Firmer Friendship with Fellow Tradesmen—Secure an Inspiration and Stimulus for Coming Year

> "It is my desire to attend the convention in New York City * * * * The C. B. M. A. has assisted us in getting thru a very helpful change in our building code. We found that it had just the sort of information on hand that we needed to place before the construction authorities of the City of Milwaukee in order to obtain a revision in the building code. We are now making further use of its resources in obtaining advertising matter for use in local papers. These are actual absolute benefits which we can put our hands right on, and feel that the assistance was of tremendous value to us."—Chas. L. Burnham, Secretary, Burnham Bros. Brick Co., Milwaukee, Wis.

the product and the other the marketing of common brick.

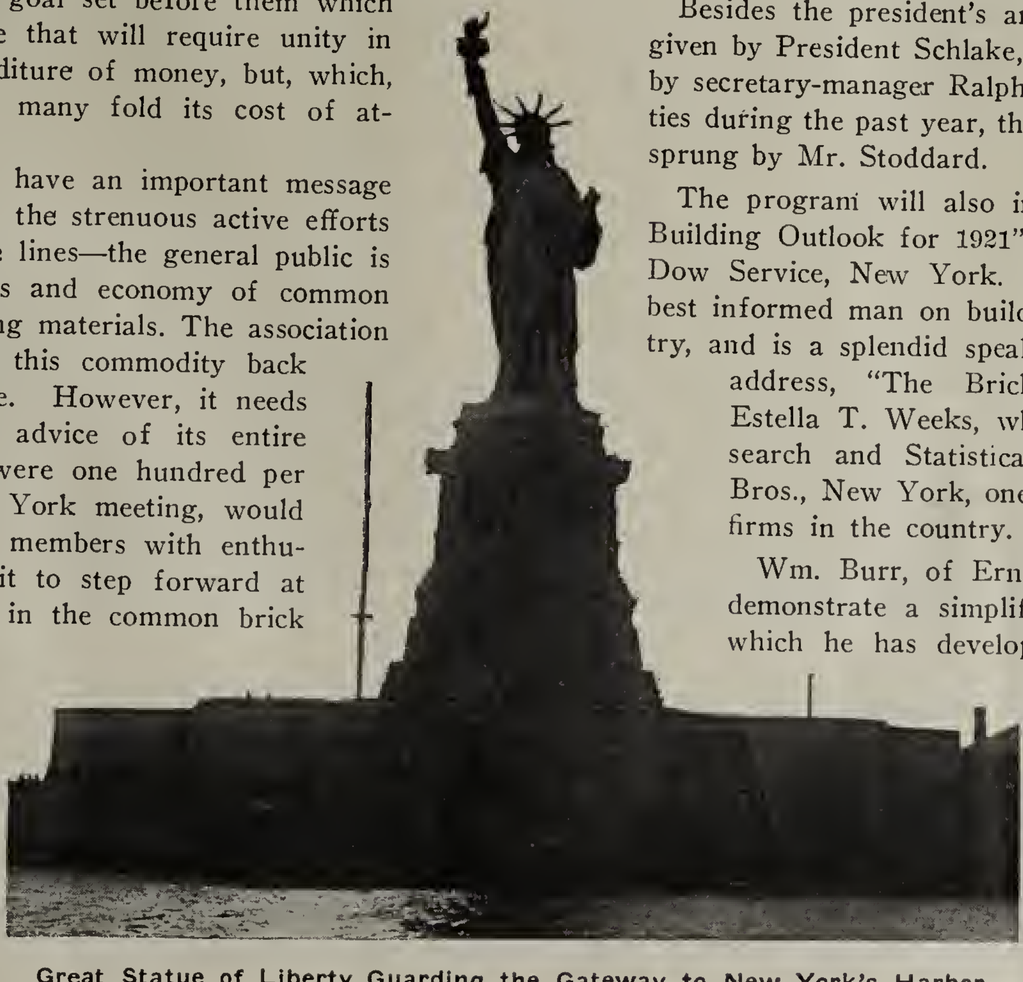
10. Most important of all—the manufacturer will have the opportunity of learning of the plans of others as to the production of brick, quantity of stock carried, wage scales and manufacturing costs. These are very important items to the producer in this period of readjustment.

C. B. M. A. HAS VASTLY BENEFITED THE INDUSTRY

Never before in the history of this country has there been an organization of the scope and character of the Common Brick Manufacturers' Association that was looking after the welfare of the common brick maker. In the three years of its existence, this healthy youngster of the clay industry family, has enabled the common brick business to make a step forward, such as is unmatched by any other equal period.

The industry is on an altogether different footing. The common brick manufacturers are understanding each other better. They realize the need of coordinate effort to combat the forces that are taking legitimate business away from them. They now have a certain goal set before them which they are striving for—one that will require unity in action, considerable expenditure of money, but, which, when realized, will repay many fold its cost of attainment.

The common brick men have an important message to tell the public. Due to the strenuous active efforts on the part of competitive lines—the general public is confused as to the virtues and economy of common brick, the oldest of building materials. The association is succeeding in bringing this commodity back into its proper prominence. However, it needs the support, counsel and advice of its entire membership which, if it were one hundred per cent. present at the New York meeting, would imbue the association and members with enthusiasm that would enable it to step forward at a pace never dreamed of in the common brick industry.



Great Statue of Liberty Guarding the Gateway to New York's Harbor.

The third annual convention of the Common Brick Manufacturers' Association will be held jointly with the thirty-fifth annual meeting of the National Brick Manufacturers' Association. The program, which will be a great privilege to hear, is nearly completed, and every effort is being made to have it surpass in quality and scope anything yet undertaken.

N. B. M. A. WILL MEET WITH C. B. M. A.

Beginning on Monday, January 31, there will be separate meetings of the executive officers of each association. On each of the following days there will be one session of each association. The first session of the entire membership of both organizations will be held on Tuesday morning. It will be called to order by President Hammond, of the N. B. M. A., whose organization will transact its business at this first gathering. At the appointed time and without intermission, President Schlake, of the C. B. M. A., will take charge, conducting the first session of the common brick organization.

On Wednesday, the order will be reversed. The session will be opened at 10 a. m. and at its termination the N. B. M. A. will begin its second session. Thursday's program will then follow the plan of Tuesday's procedure.

Besides the president's annual address which will be given by President Schlake, and a comprehensive report by secretary-manager Ralph P. Stoddard, on the activities during the past year, there will be two big surprises sprung by Mr. Stoddard.

The program will also include an address on "The Building Outlook for 1921", by Allen E. Beals, of the Dow Service, New York. Mr. Beals is probably the best informed man on building conditions in the country, and is a splendid speaker. There will also be an address, "The Brickman's Market" by Miss Estella T. Weeks, who is in charge of the Research and Statistical Department of Hoggson Bros., New York, one of the largest construction firms in the country.

Wm. Burr, of Ernst & Ernst, Cleveland, will demonstrate a simplified cost accounting system which he has developed for the common brick manufacturer. A number of manufacturers are prepared to have this system installed and it is hoped to get practical results at this meeting and to take the application of those present who wish at once to have the installation of the system made. It is planned to work out the installation of this system by groups using the existing state or local organizations of common brick manufacturers.

A session is also provided for a discussion of technical and plant problems. C. H. Whitescarver, of Williamson, W. Va., will report an actual experience with the tunnel kiln. The matter of gas producers and oil burning systems will also be discussed and there will be reports from representatives of each of the districts in the country regarding the local market, labor and the fuel situation.

> "The exchange of ideas, one brick maker with another, would be a sufficient reason for my attendance at the New York meeting.
>
> "While we may not be able to trace an order we have received as a direct result of being a member of the C. B. M. A., we do believe that we have received direct benefit from the information the Association furnishes us. It has assisted us in planning ahead for future conditions.
>
> "If the C. B. M. A. increases the demand for common brick as a building material, and we cannot see where it can possibly fail to do so, then every common brick manufacturer will benefit, and for this reason should be a member and bear his part of the expense of the association. We feel that if we cannot get our part of the increased sales of common brick, we will be lacking in energy and ability and will be deserving of the loss of whatever we may have paid in as members."—H. F. Finch, Currie-Finch Brick & Lumber Co., Gowdy, Miss.

The social functions will be the customary Smokerette on Tuesday evening, February 1, and all the visitors, including the ladies, will be guests of the local committee. The annual banquet will be held Thursday evening on which occasion there will be some unusual talent at hand which will make it a most memorable evening. The speakers will include Franklin H. Wentworth of the National Fire Protection Association, Boston, Charles H. Bryan of Detroit, and Governor Nathan C. Miller of New York. The presence of the ladies is desired at this occasion.

Every common brick manufacturer owes it to himself and to the industry to attend the New York meeting. Read the excerpts received from members as to why every common brick maker should join the association and attend the meeting. Break loose from your chair and go to New York to be imbued with a spirit of optimism and receive a stimulus of enthusiasm that will prepare you properly for the great volume of business at the threshold of the common brick industry.

The advantages of New York City need not be enumerated. The many attractions there are desired to be seen by every one. Combine your pleasure with business and enlightenment and attend the C. B. M. A. meeting. Better make your reservations today!

* * *

Comparison of Material Price Advances

Representatives of the lumber industry, meeting at Chicago recently, are of the opinion that home building will be resumed when labor and materials come to the present low price level of lumber.

Wilson Compton, manager of the National Lumber Manufacturers' Association, cited figures from the reports of the department of labor to support this theory.

Taking as his index figure of 100 the prevailing average price for the twelve months immediately preceding July 1, 1914, he made his first comparison with the average prices prevailing at the end of the war in 1918, as follows: Lumber, 164; common brick, 205; sand, gravel, and stone, 203; structural steel, 235, and cement, 173. Compared with the highest price reached in 1920 lumber was 328 in March, common brick 312 in July, sand, gravel and stone 266 in October, structural steel 310 in March, and cement 221 in December. By the same comparison, prices prevailing January 1, 1921, were: Lumber, 149; common brick, 291; sand, gravel, and stone, 260; structural steel, 204; and cement, 221.

* * *

Lumber Mill Output Greatly Reduced

Lumber cut during November by the seven principal lumber producing associations totaled only 635 million board feet compared with 830 million feet for the same month last year; shipments were 530 million feet compared with 715 million feet a year ago, and orders booked were 469 million feet compared with 1,024 million feet a year ago. For six of the last seven months lumber cut has exceeded shipments and shipments have exceeded new orders booked, indicating that the creation of a surplus has been almost continuous.

* * *

Refractories Ass'n Adds Members

At a meeting of the Refractories Manufacturers' Association, which was held in St. Louis, Mo., on December 9, the Mitchell Clay Mfg. Co., of St. Louis, which had resigned its membership in the association the early part of 1920, applied for reinstatement and was once more made a member.

The following new members were added to the organization: Wellsville (Mo.) Fire Brick Co.; Farber (Mo.) Fire Brick Co.; Sneyd Enamel Brick Co., Trenton, N. J.; Livermore Fire Brick Co., San Francisco, Cal.

* * *

Good Roads Show To Be Held in Chicago

Chicago has been chosen for the Twelfth National Good Roads Show on account of its central location and the splendid facilities afforded by the Coliseum for an exposition. The dates of the exhibit are February 9 to 12. Manufacturers of road building machinery, road materials and highway transportation equipment are planning on sending exhibits of their products. The exposition will be a feature of the Eleventh American Good Roads Congress which will be held in Chicago in conjunction with the Eighteenth Annual Convention of the American Road Builders' Association.

> "I think every brick manufacturer has received benefits from the work done by the C. B. M. A., and I believe every brick manufacturer should support it. If there ever was a time when we needed the support that the association can give us, it is now. It will give us more for our money by ten fold than anything else we can do."—J. W. Turner, President, Seward (Neb.) Brick Works.

Every effort is being made by Mr. Faherty, president of the American Road Builders' Association and by the other officers of the association, to make this exposition the most notable in the organization's history. Many new types of road building machinery will be shown and demonstration of road building and street paving materials will be featured.

Governors of states and mayors of more than 1,000 American and Canadian cities are expected to appoint several delegates to attend the Congress.

* * *

Millions Improperly Housed

Estimates placing the shortage of houses in America at more than 1,250,000 will be placed before the National Council of the Chamber of Commerce of the United States at a meeting to be held in Washington January 27 and 28, which will discuss measures to relieve the situation.

John Ihlder, manager of the National Chamber's Civic Development Department, says that 4,000,000 persons are inadequately housed. Before the war there were erected in the United States approximately 400,000 family dwellings a year. During the war little or no building took place and, except for a brief spurt in 1919, the situation remains unchanged.

In 1919 the number of houses built in the United States was only about 70,000 and the figure for 1920 will probably show less than that. Altho there are many houses for sale, these are in most cases occupied by tenants and the number of homes for rent in most communities is very small.

* * *

Nation's Economic Condition

While it may be reiterated that the worst of the business decline has probably been seen, it is probable also that some time must elapse before commodities again become adjusted in their true relation to one another. But experience has shown that any voluntary and prolonged curtailment in the output of essential goods has produced scarcity and high prices eventually, since the public continues to consume. Just how much of a supply of goods is in the hands of the consumer, due to the extravagance engendered by wage levels which in very many cases had advanced far more rapidly than essential living costs, is a matter for conjecture. But replenishment, sooner or later, will become imperative.

While curtailment of industrial output will exist while there is still a surplus of high-priced goods unliquidated, there are other branches of activity which may well demand attention. The much-advertised building boom came to little because of the restrictive influence of tight money and the lively expectation of lower building costs.

While there is possibly an oversupply of commercial office space and industrial building for the time being, housing is still greatly in arrears. Finally, the railroads, which have been much neglected during past years, demand increased facilities. It is significant that altho the roads have increased the average loading of cars and have speeded up their movement, congestion has only disappeared with the curtailment of industrial operations.

The country paid a great price for insufficient transportation facilities during the war—how great a price will only be known when the history of that conflict is written.—*The National Bank of the Republic of Chicago.*

* * *

Advocates Collective Coal Buying

David L. Wing, chief economist of the Federal Trade Commission, in a speech at Boston, Mass., recently said in part: "I believe that large industrial consumers by combining their buying power can secure long-term contracts with responsible producers or dealers in every field from which they draw their coal, at prices and under conditions which will be fair to both consumers and operators. I believe that thru cooperative action, the minimum storage necessary to safeguard you, and, in fact, the whole community from the hardships of a coal famine, whether due to transportation difficulties or to labor troubles, will be much less than if each should attempt to provide his own storage. The pooling of your coal resources will prevent many a buyers' panic from being started, with its hoarding of coal and its necessarily high prices."

* * *

Urges Government Record of Coal

A. G. Gutheim, manager, Public Relations Section, Car Service Division, American Railroad Association, in an address before the American Economic Association meeting held recently, declared:

"Provision should be made, by additional legislation if necessary, for the securing and compilation by proper governmental authority of current and complete statistics of production, distribution, consumption and stocks of bituminous coal.

"Let it be kept in mind that production, transportation, distribution, and consumption are the four big factors in the bituminous coal industry and should be reasonably well balanced. Under ordinary conditions proper coordination of these four big factors is possible and the results should be better conditions of mining and railroading, lower costs of production and transportation and better prices and distribution to the consumers."

War, he asserted, was the primary cause of coal transportation difficulties. The point to be kept in mind is that even with a coal car shortage it is entirely possible to keep the country adequately supplied with coal.

* * *

Labor Vital Factor in Construction Revival

Shortly after the opening of present Congressional sessions, Senator Calder, chairman of the Senate Committee on Production and Reconstruction, laid before the Senate facts in regard to the housing situation, as disclosed by the committee's investigations.

Senator Calder said that altho financing of building was one of the most important questions, there are others involved in the revival of building activity. Among these labor stands out prominently. When the cost to the manufacturer, of materials which go into the house, is considered, it is found that seventy-five per cent. of it is labor. During the war many men were attracted into the service and labor became very scarce and correspondingly inefficient. Cost plus contracts also aided in increasing inefficiency among workers, as it made little difference to the employer whether or not a full day's work was received for a day's pay.

Wages have doubled and efficiency has decreased so greatly that it now costs three or four times as much to build a house as it did in 1916, Senator Calder went on to say. In fairness to labor it is necessary to mention that efficiency is increasing, wages however, have remained at their high level and there is no indication of their reduction until the cost of living is reduced. When that time comes labor will be called upon to share its part.

* * *

Advocates Housing Bureau

Senator Calder on December 30 introduced a resolution to the senate under which a new bureau which is to be devoted to construction and housing would be established in the Department of Commerce.

OUTLINES LEGISLATION *to* STIMULATE BUILDING

Legislation in Behalf of Construction Industry to be Aggressively Pushed—Senators Calder, Edge and Kenyon Will Present Bills to Congress to Help Strengthen Construction

VIEWING THE VARIOUS FACTORS that will affect the country's building industry during the forthcoming year, we must consider the important bearing that any legislative action will have. Congress as a whole is cognizant of the conditions which have existed in the building trades all over the United States, and the causes of these conditions. This knowledge has been brought in by individual and committee investigations held recently.

Because of the general realization of the situation, prompt action from Congress can be expected in an attempt to improve matters as far as possible by legislative action.

From the expressions of opinion of leaders in the Senate, it is to be expected that legislation affecting building operations will deal principally with such factors as building costs as affected by transportation and production, credit facilities, and perhaps seek to secure the cooperation of labor groups in steadying the actual construction costs. Creation of a bureau in Washington to aid in private building operations is also in prospect.

PREDICTS LITTLE CHANGE IN FREIGHT COSTS

Senator William M. Calder, Republican, of New York, and Chairman of the reconstruction committee, has said:

"It will be difficult to materially change either the fuel or transportation costs. The government has fixed the wages of the men employed in the mines, and on the railroads. We cannot hope for any material reduction in transportation or fuel costs unless there is a reduction in wages. We are facing an entirely new business situation. Wages are higher, other costs are higher, and while there ought to be a substantial reduction in the costs of all commodities, building construction prices will not come back to where they were before, so we must face the situation with that in mind. The present tax laws are a large element in contributing to the situation, as high taxes have been particularly burdensome on the building industry.

"The construction of houses is like every other business based entirely upon the profit in the venture, and men will build houses again when they can see opportunity for gain. There will be protests against legislation that will tend to encourage men to make profits, but after all unless the producer can make profits, the shortage of houses will continue, in fact, be more embarrassing than it is today."

The form and scope of legislation now under consideration will not be fully known until the bills have been drawn in more concrete shape. Both Senator Kenyon and Senator Calder have bills in mind which they believe will do much to strengthen the country's building industry, and a number of other members of Congress have intimated that after they have studied the prospects more closely they will offer measures of their own.

Regarding building operations by the government, authorities predict that there will be a disposition in the coming year to let private initiative get on its feet before the government attempts anything likely to hinder future operations. The state of government finances indicates that there will be a curtailed program of government buildings, so that any materials and labor needed probably will go in a large share to private operations.

EIGHT HIGH POINTS OF CONGRESSIONAL AID

From his position as chairman of the Senate Committee on Reconstruction and Production, Senator Calder is able to make a good forecast of what legislation the Senate has in mind for the purpose of stimulating building. First pointing out as phases of the problem the fact that freight rates on building materials are now double what they were in normal times, and that coal is two and a half times the pre-war scale, Senator Calder outlines as the aims of their program of building legislation for 1921 the following:

1.—*Establishment of a construction bureau in the Department of Commerce to be a clearing house for all building activities, to secure information of building materials, study new building methods, to decrease costs, and work out standardization of materials.*

2.—*Authorization for 50 per cent. of the $2,000,000,000 savings deposits in the national banks to be loaned on real estate mortgages.*

3.—*Exemption from taxation of the income on mortgages when in the hands of individuals, provided that no individual shall own more than $40,000 worth. Senator Calder has just introduced a bill covering this.*

4.—*Legislation exempting for five years the profits on the sale of new buildings erected for dwellings provided these profits are reinvested in new buildings.*

5.—*Creation of a home loan banking system in line with the farm loan bank.*

6.—*Establishment of trade schools where young men can be trained in the building industry.*

7.—*Amendment of the transportation act to check the issuance by the Interstate Commerce Commission of "ill-advised exparte orders" on the ground, as he pointed out, that priority orders on coal had retarded the expansion of building in the country by discriminating against building materials, etc.*

8.—*Supervision of the coal industry by some federal agency to prevent necessity for "complete government control, or even the licensing system."*

Many of the subjects named above have already been taken up by individual senators and action based on the lines sketched here is reasonably sure within the near future.

* * *

U. S. to Aid States in Road Building

After an executive session of the House Roads Committee December 21, it became known that Republican leaders have agreed upon an appropriation of $100,000,000 for state road aid.

The HARVESTER PLAN

International Harvester Co. Evolves Employes Industrial Council—Relationship Between Employes and Company Always Harmonious—Eliminates Possibility of Strikes—Plants Operated on Open Shop Plan

By W. E. Worth

Assistant Manager, Industrial Relations, International Harvester Company

This address was delivered by Mr. Worth at the American Face Brick Association convention at French Lick, Ind., early in December.

The International Harvester Co. very seldom permits its methods of administration or systems of organization to be given publicity. Thus "Brick and Clay Record" considers itself fortunate to have secured for the benefit of its readers, special permission to publish this detailed account of the Harvester company's plan of maintaining a pleasant and practical relationship between employes and management.

THE HARVESTER PLAN was offered to the employes for acceptance on March 12, 1919. We have now had a year and a half of experience under that plan. The Industrial Council Plan is simply a unit in the program of industrial relations of the Harvester Co., which includes a pension plan that is very liberal in its benefits; an Employes' Benefit Association, assuring the employes care for disability during sickness or accident and in the event of death. The Industrial Council Plan insures the employes direct participation in the shaping of the policies of the company in matters of mutual interest. A newly announced Extra Compensation and Stock Ownership Plan assures the employes who remain in the service thruout a calendar year, and until the distribution of profits on or about May 1 of the following year, 60 per cent. of the year's earnings after a 7 per cent. return on the invested capital has been set aside.

The general program also includes a Thrift and Savings Plan soon to be announced, which will enable employes to continue the systematic saving they began under the Savings and Profit Sharing Plan of 1915 and by subscriptions to the various Liberty Loans, enabling the employe to subscribe for any listed security and pay for it by regular deductions from pay checks.

OPPORTUNITY TO SAVE MONEY FOR RAINY DAY

Thus it will be seen that the whole program assures an adequate wage and proper participation in the determination of actual working conditions; an opportunity for building up a substantial "rainy day" stake, which, in connection with the pension plan (and the minimum pension is $30 a month) should provide for old age retirement; and an assurance of protection during the period of work thru the benefits of the Employes' Benefit Association.

The heart and core of the Harvester Industrial Council Plan is the Works Council—the establishment of an intimate, practical and continuing means of bringing the workers and the management together on a fair and square fifty-fifty basis for the consideration and shaping of the plant's policies with relation to all matters of mutual interest arising between and among them.

The conspicuous difference between this plan and others like it that were consulted and considered in its building, is in its more frank and definite inclusion of the larger and familiar controversial questions—the fundamental questions of wages, hours, and working conditions.

Moreover, this plan is equally frank in its declarations and provisions whereby the principle is clearly established that the function of the fifty-fifty Works Council is to discuss industrial questions and shape industrial policies, but that the function of executing and enforcing them remains with the management. However, any question as to the manner of execution again lies within the jurisdiction of the council. In other words, the legislative and judicial functions are on a fifty-fifty basis, but the executive power still lies wholly with the management. The Harvester plan is so straightforward and explicit on this subject that from the outset nobody has been deluded into believing that there was any intent on the company's part to surrender the powers and the responsibilities of management, or any intent to cast off or relax the bonds of just and equitable plant discipline.

The Works Council at each plant is equally composed of representatives, freely and secretly nominated and elected by the employes, with voting divisions so arranged as to give due representation to all crafts and shop areas, and of representatives appointed by the management. The management representatives need not be equal in number to the employe representatives, but may not exceed them. By the unit plan of voting in each group, strict equality of voting power is secured between the employe and management representatives.

REPRESENTATIVES MUST BE CITIZENS

None but citizens of the country, 21 years of age or over, who have had at least a year of company service, are eligible as employe representatives. Any employe representative may be recalled by majority petition and majority vote of his constituents. The independence of every employe representative in his actions is guaranteed by providing for a direct appeal to the president of the company in case he believes that he is being discriminated against in his employment because of his conduct as employe representative; and if he is not satisfied with the president's disposition of the appeal, he may ask and shall immediately secure impartial outside arbitration.

Any employe or group of employes has the right to present to the council, either thru the secretary thereof or any employe representative, any suggestion, request, or complaint pertaining to wages, hours, working conditions, recreation, education, or any other matter of mutual interest. Added to this is the right of personal appearance before the council on any matter so presented.

The council must meet once a month and may meet as much oftener as it deems fit; it may summon any employe as a witness and may secure from the management any information required in its deliberations; it may visit any part of the plant as a body or by committee. The company pays employes for time lost from work while acting as employe representatives or serving as witnesses before the council, but the employes may, if they choose, compensate such employes by pro-rata subscription among themselves.

In case of a Works Council deadlock, the question is referred to the president of the company, thus being brought promptly to the highest executive attention. If the president cannot present a satisfactory settlement within five or ten days, the matter may be referred by mutual consent to impartial arbitration; or, if the question is regarded by the president as affecting more than one plant, he may summon a general council from all such plants, with equal representation for the employes and the management. If the general council is unable to settle the matter expeditiously, it may be referred—again only by mutual consent—to outside arbitration. Decisions by general councils or by arbitration are binding upon all concerned.

OPERATES UNDER OPEN SHOP PLAN

The Harvester Co. has always operated its plants on the open shop principle, and purposes to continue in that course. The Industrial Council Plan, however, specifically provides that no employe shall be discriminated against under it because of race, sex, religion, political affiliation, or membership in any labor or other organization.

The plan may be amended at any time by action of the Works Council and may be terminated on six months' notice from either side.

The plan was passed upon by the employes at twenty plants of the company in Canada and the United States on March 12, 1919. It was adopted at nineteen plants at secret ballot elections, participated in by 97 per cent. of all the employes not having power of employment or discharge. One Chicago plant rejected it, and this plant subsequently furnished the only strike or breach of contact that has occurred between employes and management since the adoption of the plan.

Ninety-nine per cent. of all employes present and eligible actually voted in the first election of representatives, and the winning candidates received, on an average, 68 per cent. of all the votes cast.

RAILROAD COUNCIL EVOLVED FROM ORIGINAL PLAN

As a result of the steel strike in September last year the employes of the Chicago West Pullman and Southern Railroad (owned by the International Harvester Co.) asked that they might be represented in the Wisconsin Steel Works Council, which is the plant where they are engaged in work. The management suggested that they might care to have a "railroad council" of their own, and the suggestion was adopted. The Harvester Industrial Council Plan was rewritten as a railroad council plan and was accepted by a very large majority of the employes of the Chicago, West Pullman and Southern Railroad, making the twentieth council.

The employes of the Illinois Northern Railroad (also owned by the International Harvester Co. and located on the West Side of Chicago) requested a ballot on the plan and accepted it by a large majority. Thus our twenty-first council came into being.

The Deering Rolling Mill was burned down previous to March, 1919, and on resumption of work in January, 1920, the employes asked for a council. On a secret ballot of all employes only fourteen negative votes were cast, so we now have twenty-two councils functioning.

ADD TWENTY-SIX TO EMPLOYE REPRESENTATIVES

We started with a membership of 149 employe representatives. We now have 175, due to the three additional councils and also to the growth of some of the other councils which have included new districts and consequently new representatives.

W. E. WORTH.

In addition to the twenty-six additional employe representatives acquired by increasing the original number from 149 to 175, there have been more than a hundred other changes because of semi-annual elections, and there have been, of course, some resignations, due to leaving the service, transfer, promotion to foreman, etc., so that the turnover in the original 149 has been more than 100 per cent.

Of the 149 originally elected, 127 were married, or 85 per cent. The total number of native born was 109, or 73 per cent., the average age was thirty-eight years, and the average length of service seven years.

The present personnel of the twenty-two councils is 175. The total married is 150, or 85 per cent.—exactly the same as originally. Also, the total number of native born is now 125, or 71 per cent., practically the same as the 73 per cent. The average age is now thirty-nine and four months, contrasted with thirty-eight years originally. The average length of service is eight years and six months contrasted with seven years.

MEN OF MATURE AGE REPRESENT EMPLOYES

These figures go to show that the employes have continued to select men of mature age, of high standing in the community and long in the service of the company.

At the present time we have four women members in the councils. Nearly half of our personnel in the Twine Mills is of the gentler sex and four of the 175 council members are ladies.

I would like to read to you some extracts from a bulletin prepared by the Tractor Works Council and distributed to all employes of the Tractor Works. The council requested that its Publicity Committee compile a résumé at the conclusion of the year's work and that pamphlet was prepared by the employe representatives of the Publicity Committee and submitted to the management, asking if they approved of the text. With absolutely no change of any importance in the text, it was approved and was published by the Tractor Works Council, so that which I read now is taken from a statement of the experiences of the council, prepared by and subscribed to by the employe representatives.

PLAN SURVIVES YEAR OF INDUSTRIAL UNREST

This bulletin says: "One year has passed since the Harvester Industrial Council was established at the Tractor Works—one year of recriminations, mutual distrust, strikes and unrest in the industrial world generally, and of changing conditions that would have wrecked almost any ordinary Council Plan. We say 'any ordinary Council Plan' advisedly, for ours is far from that. In the first place, and strictly speaking, ours is not a 'plan;' it is really the Harvester Industrial Council, and the word 'Council' itself has something intimate, something personal about it. It is a group of counselors, people gathered to consider and determine policies.

You will want to read every word of this article even tho it deals with the plan evolved for the purpose of establishing a closer harmony between the management and its employes, by a company employing about forty-five thousand persons, distributed among twenty-two plants.

You clay plant managers who employ only thirty-five to five hundred men may not feel that the plan described in the article is in any way applicable to your plant but we urge you to read it because it will offer suggestions in planning a policy to be used in dealing with clayworkers; it shows the advisability of devising some scheme of better employe relationship than usually exists in a clay factory; it tells how a properly conceived plan can reduce to nil the possibility of strikes and industrial disturbances.

"In the second place, the matter of presenting the Harvester Industrial Council was not gone into haphazardly and hurriedly by its originators; it was carefully thought out, every detail and condition of the time weighed, and when it was finally presented, it was a comprehensive and complete means for personalizing our large industrial units. Not perfect, understand, for from time to time it will be, and has already been, found necessary to make amendments to the original plan.

FIRST REJECTS THEN ACCEPTS PLAN

"An election was held at all works of the company on March 12, 1919, two days after the accompanying letter was written. The plan was rejected at this works, due to the short notice and lack of understanding of the proposition. Some of the employes thereupon got together and after fully explaining the plan to the rest of the employes by means of bulletins and personal talks, circulated a petition asking that the plan be resubmitted. This was done; a substantial majority of the employes voted to accept the plan, and steps were immediately taken to organize the Works Council, the council being the fundamental feature of the plan.

"Anticipating the flood of suggestions, complaints and other business that would come before it, the council appointed its members to serve upon various committees created to handle the various activities and routine matters coming within the council's jurisdiction. In that manner the larger questions could be presented to the council as a whole, leaving the committee free for preliminary investigation of all matters presented to the council.

"With these various committees as a nucleus, the council started off prepared to handle all manner of business. As a result of the formation of these committees, work which ordinarily would have been presented to the council as a whole was instead presented to it in the form of minutes of the various committee meetings, together with notations as to the disposal of the various cases investigated. The efficiency of this committee plan is seen in the fact that if the cases they handle daily were presented to the council sitting as a body, it might easily take one meeting to discuss a single matter and another meeting in which to act, and much time would be lost before the matter could be properly investigated and settled.

COUNCIL PREPARED TO HANDLE ALL BUSINESS

"Before going into the various meetings and accomplishments of the Works Council, let us briefly give a glance at what the council stands for and what relationship it bears to the company itself. One of the company officials said at a meeting held in the tractor foundry on May 13, 1919: 'No matter how well or poorly the plan may be written, I want to leave this thought with you—this plan is only a beginning; it is a frank and free invitation on the part of the management for you to elect representatives to sit with the management in shaping the policies of the company.'

"'In shaping the policies of the company's means that the board of directors has entrusted to the Works Council the joint and equal consideration and formulation of the policies of the company with reference to hours, wages, safety, health, recreation, employment, restaurants and all other matters of common interest. The execution of the policy, of course, is up to the management, but if the manner of execution is questioned at any time, it may be reviewed by the Works Council. Equality of voting power between the representatives freely elected by the employes and those appointed by the management; the unit rule of voting in the council; the right of all employes to present suggestions, requests or complaints; the assured independence of action of employe representatives; the right of employes to recall unsatisfactory representatives, and their absolute protection as to position and wages in the discharge of their duties as council men—these are among the guarantees that the Works Council has to insure the fulfillment of its function with even-handed justice.

"If the Works Council is unable to agree upon any subject the question is referred directly to the president of the company, and if he is unable to arrive at a satisfactory conclusion, or to present a settlement satisfactory to the majority of the employe representatives, he may either put it before a General Council or refer it by mutual consent to disinterested arbitration. Findings reached by arbitration or a General Council are binding upon all concerned. It is thus seen that no matter is so small that it cannot reach the desk of the president."

* * *

Host of Friends Send Greetings

In the previous issue of *Brick and Clay Record* mention was made of the various calendars, Christmas cards and other remembrances received. Since that time more of the season's greetings have been received, for which we wish to express our appreciation.

From John A. Roebling & Sons Co., Trenton, N. J., a practical memorandum calendar was received, a very handsome calendar from the Tuttle Brick Co., Middletown, Conn., from W. H. McCarthy, Chicago, Ill., and from Roessler & Hasslacher Chemical Co., New York City. The last mentioned is of interest to pottery manufacturers, as it shows the art of pottery making as practiced by the Indians years and years ago.

Very handsome, as well as entirely useful and practical bronze paper knives were sent by Dominion Fire Brick & Clay Products Co., Moose Jaw, Saskatchewan, Can., and Geo. H. Clippert & Bro. Brick Co., Detroit, Mich. Cards of greeting came into the office from F. Seitter's Sons, Philadelphia, Pa., Geijsbeek Engineering Co., Burke Building, Seattle, Wash., The Cleveland (Ohio) Builders' Supply & Brick Co., Roger W. Babson, Wellesley Hills, Mass., Standard Brick Co., Macon, Ga., United States Refractories Corporation, Mount Union, Pa., formerly the Mount Union Refractories Co., Shawmut (Pa.) Clay Manufacturing Co., Schaffer Engineering & Equipment Co., Pittsburgh, Pa., and from the Independence (Kas.) Paving Brick Co.

Brick and Clay Record is grateful for all these expressions of good will and wishes to return them most heartily with the wish that you share to the fullest extent in the prosperity which we will experience in 1921.

Coal Production Steadily Increases

Geological Survey weekly report on the production of bituminous coal, anthracite and beehive coke, compiled December 18, contains the following facts:

The total output of soft coal during the week of December 11 is estimated at 12,865,000 net tons, an increase of 33,000 tons over the revised figures for the preceding week. Production of anthracite during the week ended December 11, declined somewhat below the maximum for the year, attained during the preceding week. Estimates based on daily loadings, furnished by American Railroad Association, place the total output at 1,915,000 net tons, a decrease when compared with the preceding week of 136,000 tons.

* * *

To Relieve Unemployment Thru Road-Building

Several large cities in England, in an effort to solve, or at least relieve the unemployment situation, is about to begin a road building program which will involve an expenditure of almost £1,500,000. Details of the plan indicate that the British Ministry of Transport will bear fifty per cent. of the cost of such work and will loan to municipalities the remaining amount for five years, repayable in annual instalments.

Eight other cities are considering similar unemployment schemes requiring expenditures of £520,000.

* * *

BUILDERS HOLDING OFF *for* LOWER PRICES—GOTHAM MAY AGAIN FACE 1920 SITUATION

TURNING THE YEAR with certain building practices disrupted and with conditions shaping themselves for a straighter course in favor of the prospective building investor, construction interests await eventualities, says the Dow Service daily building report of January 3, 1921.

If no further adjustments develop in the building situation either in the matter of prices or practices, the building investor can take comfort in the fact that he can enter the market today with promise of less frustration than he has been able to expect in the better part of a decade. It is a question, however, as to whether this fact will bring the builder into the market at once or whether he will await fuller developments in the form of a building millennium.

It is this element of doubt that pervades the building material and construction industries today. It is the existence of this uncertain factor that is retarding the production of building materials in anticipation of future markets' needs.

NEW PRICE PEAK MAY BE REACHED

If the prospective building investor decides to await the fullness of promised reformation of building policies the best part of the 1921 building season will probably slip by before the manufacturers will be able to fairly gauge their markets with the result that the history of early 1920 will be repeated in that demand was greatly in excess of supply and materials.

It is exactly this contingency that leads some authorities to believe that there is a possibility of a new peak in building material prices being reached in the latter part of 1921. The difference will be, however, that in the early part of 1920 building materials felt their first abnormal upward price impetus at the same time that labor lost much of its efficiency and the resultant cost of building construction became greater than the average investor could sustain.

MAY FACE 1920 SITUATION

The cost of construction as represented by greater efficiency on the part of labor is already much lower than it was and competent authorities say it will probably go lower for a while, but let construction work develop, as it is bound to do sooner or later, and with the limited supply of building craftsmen available, many of the features incidental to the building movement of early 1920 may return.

Thus there are two factors encouraging construction work to proceed at an early date; the present comparatively low price of basic building materials and the fact that labor is at the moment not only hungry for work, but is willing to work. Neither of these conditions may present themselves so favorably to the building investor after the turn of the first half of the year.

LOWER PRICES EXPECTED BY BUILDER

Offsetting these two considerations is that which prompts the prospective builder to defer his building projects in anticipation of still further disruption of the influences which have made his construction costs high. Good early, spring building weather may have an influence in favor of prompt resumption of building, but the chances now seem to favor a continuance of the general policy to await the enactment of new laws and the repeal of recent ones that deprive the speculative builder of much of his proprietorship in his finished structure, especially if it is a residential type of investment.

There is a noticeable change for the better in the construction outlook as the new year turns. Projects long deferred are being re-estimated and the day of general free competition is nearer to actual realization.

CONSTRUCTION REVIVAL—WHEN?

Price Stabilization Must Come First—Public Waiting for Lower Material Prices—Reductions Not Justified at Present Time

By Owen M. Fox

Construction News Department, "Engineering News-Record"

TO INSURE a busy year in 1921 and to make possible the progress of needed housing and public-works construction definite action on price revision seems necessary. Only stable prices will encourage building. Buying is always at a minimum when prices are on a decline and at its best on the upward trend.

There is a lack of confidence in the stability of present-day costs, or, stated differently, a conviction that construction cost will soon be much lower. No industrial company cares to put a million dollars in the erection of a plant which six months hence may possibly be built for $600,000. No financial institution can risk financing such a project. No public official dares spend public moneys except for urgent work under such conditions.

The necessity of stabilizing costs, not only in fact but also in the public mind, is therefore apparent. Labor has already taken long strides in this direction. In Chicago, for instance, the building trades have agreed that there shall be no wage or working-condition agitation for eighteen months. At no time in recent years have there been so few strikes and lockouts and it has been a long time since labor has been so plentiful. Efficiency, by common agreement, ranks from 12½ to 30 per cent. higher than during the silk-shirt days, but labor is almost the only construction element that shows cost decline.

MATERIALS REDUCTIONS LAGGING

Reductions in building-materials prices during the past ten weeks have been remarkably few in comparison with those of other commodities. Much has been made over a drop of from 30 to 40 per cent. in lumber costs, but lumber cost, after all, is such a small portion of the whole expense of general construction that the influence of this movement is almost negligible. The general public from whom, in the last analysis, all buying movements come, whether of cotton cloth or concrete warehouses, seems intuitively aware of the facts indicated by the weighted index figure of prices issued by the Bureau of Labor Statistics at Washington. This shows a decline of about 53 points, or 23 per cent., since May 1, but shows also that during this time building materials in the aggregate have shown but 8 per cent. decline.

People recall that while building-material prices have been receding 8 per cent. textiles have gone back 35 per cent.; farm products, 30 per cent.; metal products, 29 per cent., and that all commodities, including building material, have dropped the 23 per cent. mentioned in the foregoing paragraph. They recall that the 8-per cent. decline in building materials has been confined almost exclusively to lumber and sheet and structural steel, and are asking why brick, cement, sand, gravel, lime, reinforcing material, etc., do not do their share.

BUILDING MATERIAL ADVANCES 241 PER CENT.

Would-be investors cannot help but note that in most lines in which but slight reductions have occurred the reason is offered that the price increases were less than the average during the period from 1913 to May, 1920. Such is not true of building material. Again citing the Bureau of Labor Statistics, we find that farm products advanced during that period, 146 per cent.; foodstuffs, 187 per cent.; metal products, 157 per cent., chemicals, 152 per cent., and that building materials advanced, 241 per cent., being exceeded only by textiles, 256 per cent., and house furnishings, 271 per cent.

The above recital is given to point out the frame of mind of the public, and to indicate the necessary steps that must be taken to change that attitude, which is apparently so determined as to make impossible any immediate improvement in construction.

In other industries reductions by manufacturers and first hands have compelled cuts all along the line and have caused holders of intermediate stocks to stand losses in shrunken inventories. In the building field such losses are not necessary as dealers and jobbers have no vast supplies stored. It is more nearly a direct producer-to-user business.

EFFECT ON VOLUME OF WORK

Apparently the opinion of "the man in the street" is going to have a great deal to do with the immediate future of construction. Any great private construction movement will come largely from the erection of individual homes and small flat buildings and the owners of such projects are governed largely by their opinion of conditions in general rather than by any knowledge of conditions in the building industry. It seems probable that the growth of industrial plants in America in 1918 and 1919 has discounted the need for a large additional amount of factory space at present. The present trend of financial venture seems to be toward either long-time, non-speculative investment or short-time, high-return, speculative investment, which would preclude an unusual volume of apartment or office-building construction.

In public statements, in testimony before the Senate committee and in private conservations, producers of materials are a unit in stating that reductions at the present time are not justified by lowered costs. Opinion seems to be about as unanimous that cuts will be justified in the course of a few months—possibly by March first, tho eastern opinion has inclined to expect earlier reduction. Decisions as regards construction next year are being made now. Every engineer and architect in the country is busy on plans which will either be postponed or advanced in the next few weeks. Bond issues for public works are coming to a vote or being offered for sale.

SHOULD DETERMINE NEXT YEAR'S PRICE LEVEL

The longer the coming readjustment of price is delayed the less new work will be undertaken in the coming year. It seems that the wise thing to do is to make immediate surveys in every line, to determine the level at which the price should be maintained next year. These surveys should take into consideration every factor which goes to reduce costs—improved transportation, cheaper coal, reduced labor cost due to wage reductions (if any) or increased efficiency and lowered interest rates on investment. The price, when determined, should be put into immediate effect, even at the cost of a temporary loss.

This is not a matter of charity to would-be builders. It is purely a problem in merchandising. That which will work to the ultimate benefit of a trade in general is a wise thing to do even if it involves a present sacrifice on the part of the seller and permits particularly advantageous buying, for the time being, on the part of the consumer. Such a movement, at the present time, holds promise of greater benefit to the construction industry during the next year than has ever seemed possible at a similar period.

Sufficient plans for construction are now "on the boards" to insure, should the major portion of them go ahead, a banner year in 1921. Reports from every city of the country show millions and even hundreds of millions of dollars worth of construction scheduled to go ahead as soon as conditions permit.

PRESENT CONDITIONS

Current tendencies in the industrial and financial world are encouraging, not for the outlook they give for the next few weeks, but for the promise of a good year in 1921. The process of descending from the perilous peak of inflation, which existed at the beginning of this year, is well under way and seems certain of accomplishment without the morale destroying shock that was feared.

Nearly all sections report decreased volume of construction, the Pacific Coast region being the exception. Building is going on there at a high rate, Los Angeles and vicinity showing particular activity.

Thruout the Mississippi Valley construction is standing still. The steel-producing section reports a plentiful supply of ore stored, pending the close of Lakes navigation, to insure any needed steel production this winter, and coal supplies are also assured in all sections. Lessened demand is noted for steel products and is being reflected in reduced output, several plants having shut down a portion of their furnaces. The tendency of farmers in the West to withhold fall crops from market on account of falling prices is being defeated by the forced calling of loans by the banks.

While the buying power of the nation seems to be reduced on account of the fall in agricultural prices, lessened sales are attributed chiefly to a spirit of economy and uncertainty as to the future. Necessary liquidation of inflated values, both in materials and securities, is proceeding systematically and in a manner which should render all elements sound and provide a basis for real prosperity in all lines when once the new level of buying power of the dollar has been established.

* * *

New Chairman A. C. S. Division

A. F. Greaves-Walker, production manager of the American Refractories Co., Pittsburgh, Pa., has been appointed chairman of the Refractories Division of the American Ceramic Society. He takes the post left vacant by the resignation of A. V. Bleininger. Mr. Greaves-Walker is making an effort to provide a strong and interesting program for the meeting in Columbus, Ohio, in February, and is soliciting the interest of every member of the society interested in refractories.

* * *

Staley, Too, Leaves Bureau of Standards

The government bureaus are losing heavily the personnel of their staffs. The Ceramic Department of the Bureau of Standards seems to be especially hard hit in view of the fact that it is but a small organization. Not so long ago we announced the departure of A. V. Bleininger from the Bureau of Standards where he had been a guiding light for many years in the ceramic departments.

HOMER F. STALEY.

The latest prominent member of the ceramic staff of the Bureau of Standards to leave is Homer F. Staley, who has been chief of two of the important sections of the ceramic division. Mr. Staley leaves the Bureau to take a position as ceramic engineer for the Metal and Thermit Corporation, 120 Broadway, New York City.

The above corporation is a large concern manufacturing special chemical compounds. There are two particular lines which this concern is chiefly interested in. One is the manufacture of thermit which is used in enormous quantities in the welding industries. The other line of endeavor is in the manufacture of pure metals such as tin, chromium, and so forth. This company has developed special processes for the production of a high grade tin oxide and is going to develop a business in ceramic oxides.

There are four plants operated by the above concern, one at Jersey City, N. J., Bayonne, N. J., East Chicago, Ind., and San Francisco. The plant at East Chicago covers fifteen acres of ground and will be the chief factory manufacturing tin oxide. The caustic soda process of manufacturing tin oxide will be employed.

Homer F. Staley will direct the ceramic end of the business, and it is rumored that he will draw one of the highest salaries paid to any technical ceramic man.

BELTS *and* THEIR CARE

First of a Series of Articles on Standard Mechanical Practices in the Clay Plant Repair Shop—Tells How to Install Various Types of Belts

By G. H. Radebaugh

Asst. Manager Shop Laboratories, Dept. of Mechanical Engineering, University of Illinois

BELTS ARE MADE of several materials, among which the most common are leather, rubber, and cotton.

Transmitting maximum power at minimum expense may be obtained by adopting and closely adhering to standard in respect to the four following items:

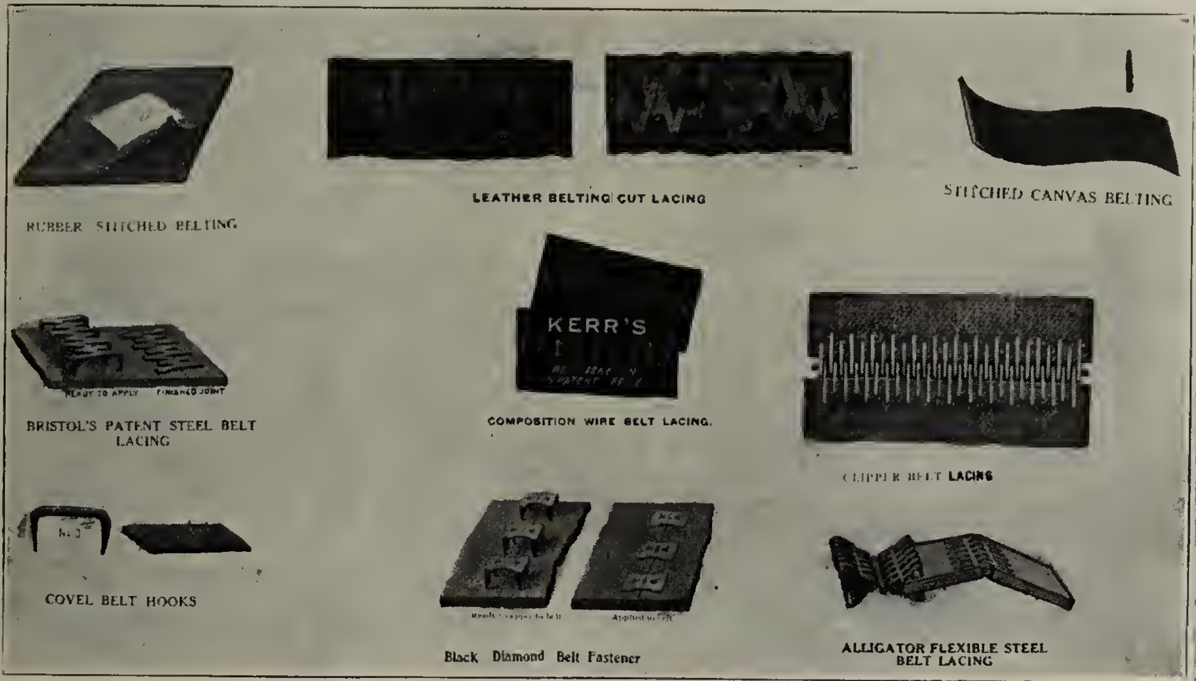
1. Quality of material.
2. Size of belt to use.
3. Speeds to run belt.
4. Methods of fastening.

Selection of belting. Leather belts must be made from a good grade of leather. Uniformity in the material is of first importance; that is, the different sections of which the belt is made should all be of the same grade. The belts should also be thoroly stretched so that they do not have to be taken up every few days.

The leather for the best grade of belting is taken from the central part of the hide along the back of the animal. That part of the hide extending along the spine and for some distance down the sides is firm and close in texture, and strongest for belts. If the strips are cut too long, the ends will be taken from the neck of the animal which is inferior stock. A "short lap" belt is one made entirely from that part of the hide which comes from the back of the animal and the strips are not long enough to include any portion of the neck stock.

GIVE DATA WHEN BUYING BELTS

In ordering belts, complete specifications should be given to enable the supply house to send a belt that is best fitted for the job. Seven essential items are listed that should be observed; 1. *Length.* Give exact distance around pulleys. Do not add extra length of lap because the manufacturer will allow additional length for lap. 2. *Ends.* State whether belt is to be "endless," square ends or lap. 3. *Width.* Give exact width of belt in inches, not width of pulley. 4. *Grade.* State manufacture and trade name of belting. 5. *Ply.* Specify either single, double, or three-ply. 6. *Finish.* State whether cemented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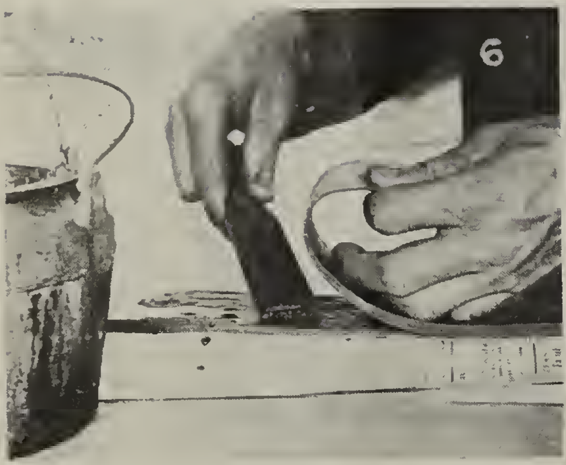
RUBBER STITCHED BELTING
LEATHER BELTING CUT LACING
STITCHED CANVAS BELTING
READY TO APPLY
FINISHED JOINT
BRISTOL'S PATENT STEEL BELT LACING
KERR'S
COMPOSITION WIRE BELT LACING.
CLIPPER BELT LACING
COVEL BELT HOOKS
Black Diamond Belt Fastener
ALLIGATOR FLEXIBLE STEEL BELT LACING

This Series of Cuts Explains the Various Operations Incident to the Proper Installation of Belts and Their Care.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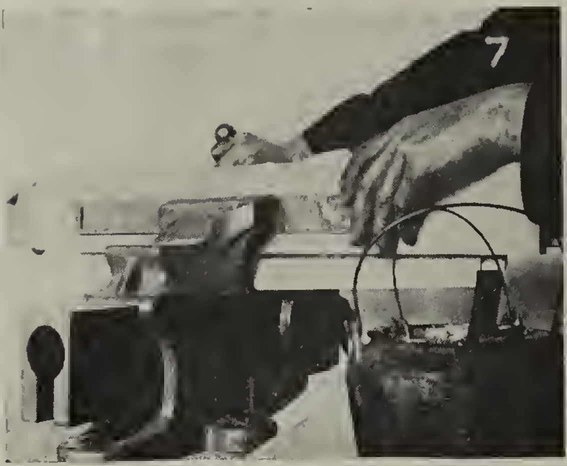
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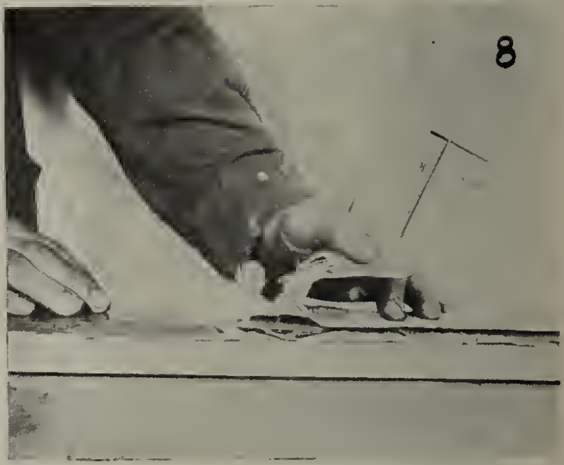
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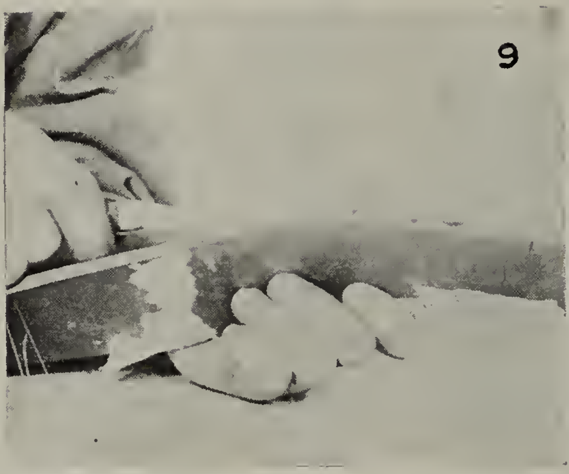
or to be fastened with other fastening. 7. *Remarks.* Give kind of service for which belting is intended.

Application of belts. Whenever practicable, belts should be installed so that the slack side is above and the driving side below the pulleys. If this condition is reversed and the slack side is below, the arc of contact is materially lessened. Belts should also be placed on the pulleys with the hair or grain side next to the pulley rims.

BELTS SHOULD GET GOOD CARE

Systems of caring for belts. A large part of the work of getting the most out of a machine consists in providing it with sufficient power. On belt-driven machines, the belt is often, and in fact most always, the limiting feature. If this is not in proper condition, especially regarding tension, slip will result, power will be lacking to obtain maximum results and in addition the belts will wear out quickly. A belt of any size and length is an expensive item, and is worth caring for systematically.

Belt Dressings. Rosin or rosinous mixtures should never be used to prevent belts from slipping. They will cause temporary adhesion, but the belt soon becomes glazed and slips more than before rosin was applied. Lubrication oils should not be permitted to drop on belts. If a belt has become saturated with oil scrape it and pack it in dry sawdust or some other absorbent material three or four days. When the belt becomes dry, all surface dirt should first be removed before applying a dressing. This usually can be done by cleaning the belt with a cloth dampened with kerosene. If necessary use a metal or wooden scraper.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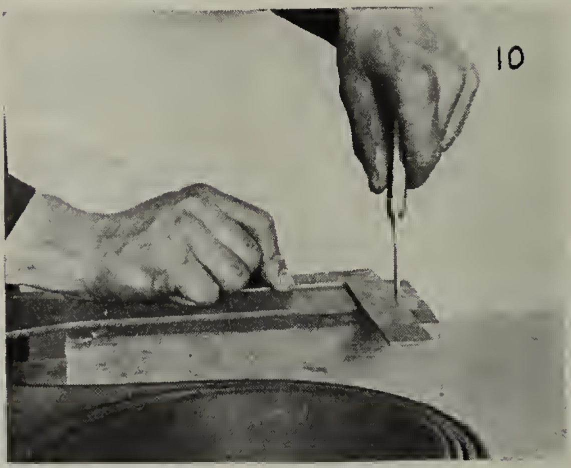
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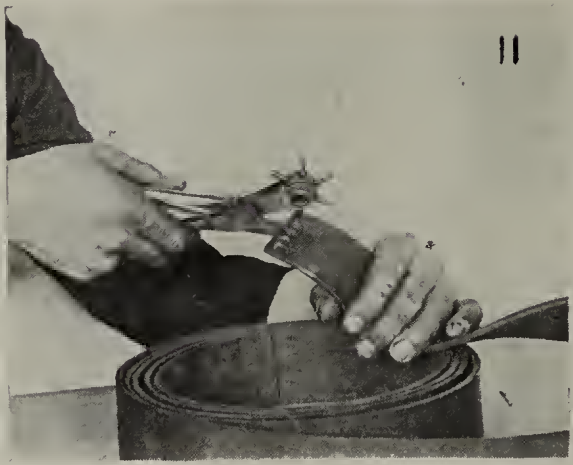
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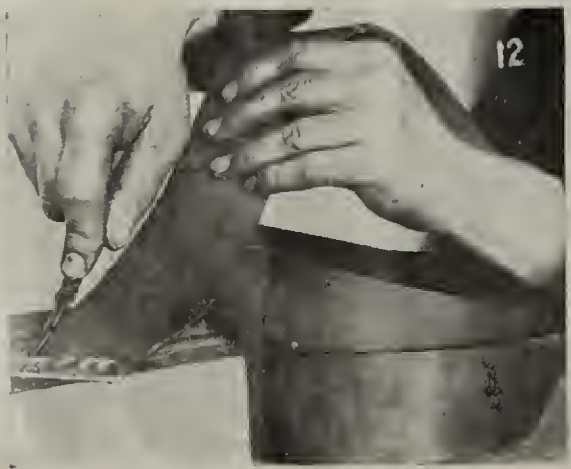
BELTS REQUIRE GOOD DRESSING

A good dressing for leather belts. Take two parts of beef tallow to one part cod liver oil by weight. Melt the tallow and allow it to cool until the finger can be inserted without burning. Then add the cod liver oil and stir until cooled. Apply this mixture to the driving side of the belt.

Rubber belting. Rubber belts are used in places exposed to the weather or the action of steam as they do not absorb moisture or stretch as easily as leather belts under like conditions. The quality of rubber belting depends on the mixtures. There are, in general, two kinds; one composed entirely of new rubber, and the other containing some, if not all, re-worked rubber, discarded rubber articles, rubber shoes, etc. The weight of the cotton duck is an important consideration. High grade belts contain what is known as a 32-ounce duck. If the proper weight of a duck is used, a three or four ply rubber belt is equal in strength to a single leather belt. A five or six ply rubber belt is equal to a double leather belt, and a seven or eight ply rubber belt is equal to a triple leather belt.

Hints on the use of rubber belting. Precaution should be used in arranging pulleys and shafting in order to obtain the full power and the full service.

The diameter of the pulleys should be as large as it is possible to have them,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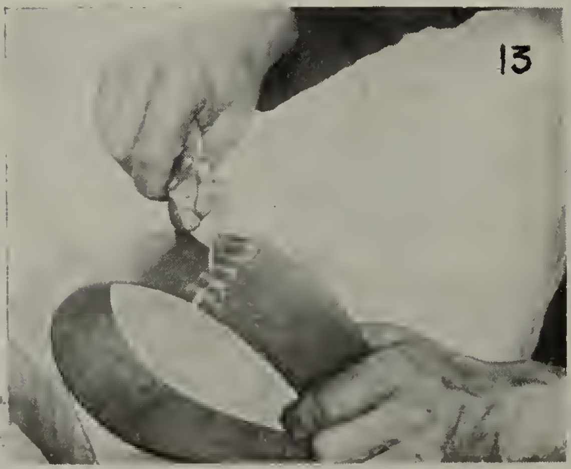
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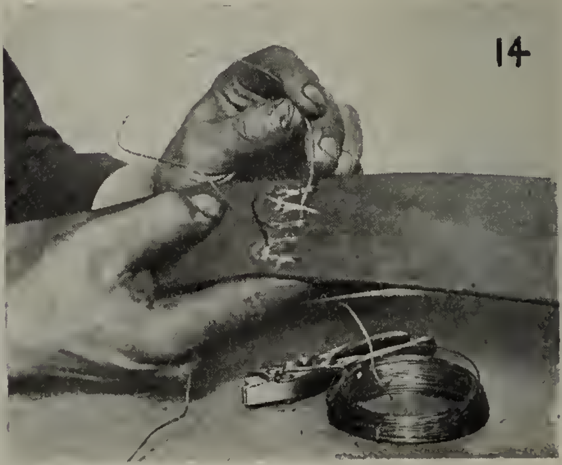
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as a belt stretches on the outside, while on the inside it compresses.

CUT SHORTER THAN DISTANCE AROUND PULLEYS

The belt, before adjusted to the pulley, should be cut shorter than the distance around the pulleys by one-eighth to one-quarter of an inch for every foot when measured with tape or string.

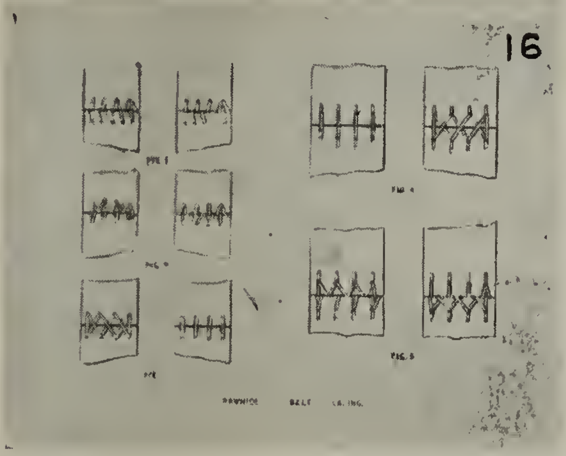
In narrow belts, butt the two ends together making two rows of holes in each and lace with lacing. On wide belts, in addition, sew on a thin piece of rubber or leather to strengthen the joints.

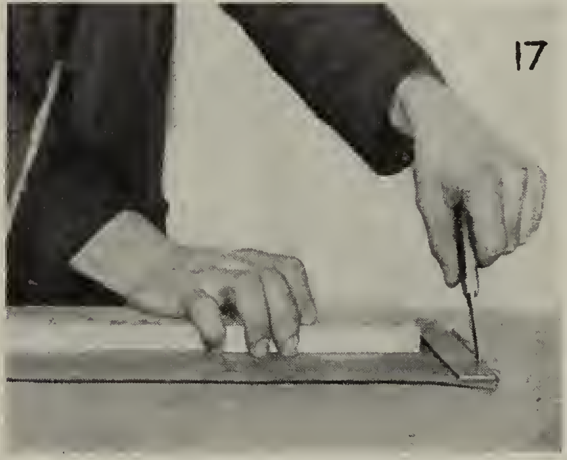
The seam side of the belt should always be placed outside and not next to the pulleys. In case the belt slips, which occurs very seldom, it is best to coat the side next to the pulleys lightly with boiled linseed oil.

Grease and all animal oils are injurious to rubber; hence especial care should be taken to protect the edges from them as they are liable to decompose the belt.

A dressing for rubber belts. Equal parts of red lead, black lead, French yellow and litharge, mixed with boiled linseed oil and enough Japan to make it dry quickly.

Canvas belting. Canvas stitched belting is made of several laps or plies of cotton duck stitched lengthwise and the belt is afterwards treated with a compound made principally of linseed oil. This oil saturates the cotton duck, which is thus protected from dampness, and the belt is not easily injured by heat, cold, gas, steam, or acid fumes. Canvas stitched belting is often used where the material coming in contact with the belt or the surrounding atmosphere would ruin an ordinary leather, cotton or rubber belt. It is applicable to belt conveyors when the material to be handled will not cut the cotton fibre. Rubber belt dressing may be used on the canvas belt.





FORMULA TO FIND LENGTH OF BELT

To determine the length of a belt. One of the common practices is to measure the distance around pulleys with the steel tape, and when measuring the belt, shorten it to allow for tightness. A simple rule which can be used with fair accuracy when the pulley diameters are nearly equal is as follows: Add the diameters of the two pulleys, divide the sum by 2 and multiply the quotient by 3 1/7; then add to the product twice the distance between the centers of the shafts. Expressing this rule as a formula in which $D =$ diameter of large pulley, $D' =$ diameter of small pulley; $C =$ center distance between shafts; $L =$ belt length.

$$L = \frac{D + D'}{2} \times 3\,1/7 + 2 \times C.$$

Inspection of belts. Systematic inspection of belts will prevent much loss of time. As a rule all belts should be overhauled every six months.

Belt Fastenings. The best fastening for a belt is the cement splice. It is far better than any form of lacing, belt hooks, riveting, or any other method of joining together the ends of a belt. The cement joint is easily applied to leather and to rubber belts, but to make a good cement splice in a canvas belt requires more time and apparatus than is usually at hand.

BELT FASTENERS AND LACINGS

The different kinds of lacings and belt fasteners shown in Fig. 1 give an idea of the many kinds of belt fastenings on the market. Good judgment should be exercised when using fasteners, as there is danger of large fasteners being used on a small belt which cut the belt to such a degree as to make it useless.

Cement for rubber and leather belts. The following preparation can be used for cementing leather belts. Place equal parts of glue and isinglass in a glue pot. Add enough water to cover the two ingredients and let them soak ten hours. Then bring to a boiling point and add pure tannin until the mixture appears like the white of an egg. Apply the cement while warm. For rubber belts, use 16 parts of India rubber, 2 parts caulker's pitch and one part linseed oil. These ingredients should be melted together and used while hot. This cement can also be applied to leather. Length of laps for cementing belts:

Belt width	1″	2″	3″	4″	5″	6″	7″	8″
Length of Lap	5″	5″	6″	7″	7″	8″	8″	9″

It must be understood that in cementing belts (if no adjustment is provided to lengthen distance between centers) the problem of belt tension is made much more difficult as it becomes necessary to reglue the belt; this operation requires some 2 to 5 hours before belt can be used which would put the machine out of production for that length of time.

MAKING GLUED JOINT ON LEATHER BELT

Holding the belt to make the lap—Fig. 2. In gluing a belt, the first operation is to fasten it on a board. This can be done with two small nails.

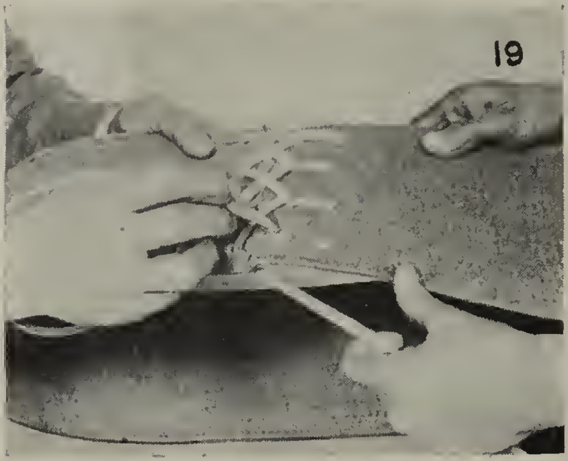
Making the lap. Fig. 3. The next operation is making the lap which is accomplished by using the wood plane. Bring the lap to a feather edge. Fit the two together checking on the amount of leather being removed. After cementing the belt the lapped joint should not be thicker than the other part of the belt.

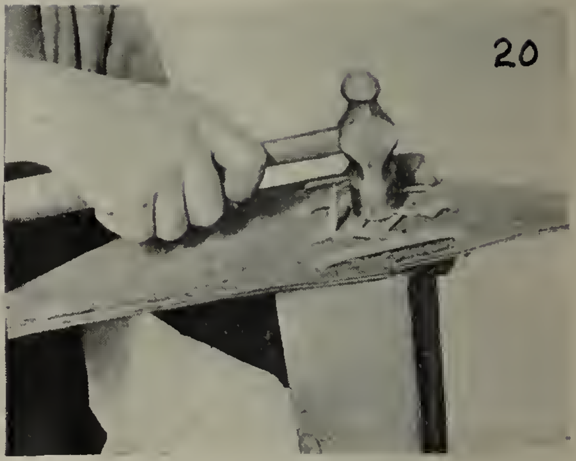
Placing paper between belt and clamping board. Fig. 4. Place a piece of paper between the board and belt, match the two laps together, and place in positive position with small nails. Line the belt up with the edge of the board. This is done so that the belt will be kept straight.

Heating the glue. Fig. 5. Take a glue pot or double boiling pan and heat the glue on the forge fire. It is best never to bring the glue up to a high heat. There should always be water around the glue pot. Do not heat too quickly as there is danger of scorching.

SPEED NECESSARY IN GLUING

Applying the glue to the laps. Fig. 6. The glue is next applied to the belt laps by using a paddle or brush. Work fast so that you can get the laps together before the glue sets.





Clamping the belt in the vise. Fig. 7. Bring the laps together, place paper on top of belt before placing on board. When the top board is put in place, the belt should then be clamped by using the vise as shown or by the use of wood workers' clamps.

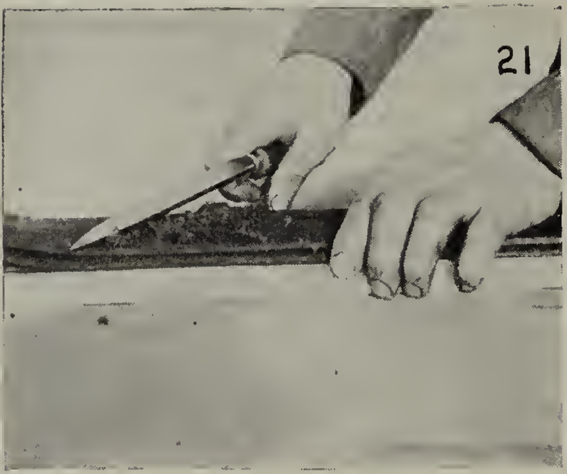
Removing the clamping boards from the belt. Fig 8. The belt should be left in the clamp over night if possible, if not, from four to eight hours. Remove the belt from clamps and lift off the top board. The paper is then torn off. Draw the nails and remove belt from the bottom board.

Cleaning the glued joint. Fig. 9. The belt is now cleaned up, all paper and particles of glue are removed. Clean the edges up nicely and the belt is ready to be placed on the pulleys.

LACING BELT WITH WIRE

Square the belt. Fig. 10. In lacing belts with the wire lace, the first operation is to square the belt. Do not guess at this, but use the square as shown in this view. By working on a block of wood it assists you in holding the belt and square with one hand leaving the other hand free to use the knife.

Punching the holes. Fig. 11. The holes should be punched in the belt only as far back from the end as the thickness of the belt. Holes should be punched directly opposite each other and in proportion of nine holes to every four inches of belting. Use the belt hand punch as shown in this view. Do not use too large a punch for the wire lace as it is not necessary.



Cutting the grooves for the lacing. Fig. 12. On the side of the belt that runs next to the pulley, it is good practice to cut a very small groove from the hole to the end of the belt by using a grooving tool as shown in this view. This permits the joint to run more smoothly over the pulley. By doing this a much neater job of lacing can also be obtained.

FASTEN WIRE ENDS SECURELY

Lacing the belt. Fig. 13. After the holes have been punched in each end of the belt, the ends are placed together. Cut off a piece of lacing wire (soft copper wire or regular belt lacing wire) seven times the width of the belt for single and nine times for double and start to lace belt on the pulley side. Start lacing in the center holes and lace both ways.

Pulling the lacing wire tight. Fig. 14. In finishing up the lacing, the ends of the wire should be securely fastened. Lacing back as shown in this view is the first step to make in fastening off. The wire should always be pulled up tight with the use of the pliers after each lace.

Fastening the end of the wire lace. Fig. 15. The end of the wire is fastened as shown in this view. It is very important not to permit the wire ends to project from the belt as there is danger of injury. The wire is formed so that the end can be driven into the belt.

When making a laced joint, cut the ends of the belt perfectly square and punch the holes exactly opposite one another in the two ends. In each end there should be two rows of staggered

holes. Begin to lace in the center of the belt. The lacing should not be crossed on that side of the belt which runs next to the pulley.

STYLES OF LEATHER LACINGS

Single hole, single hinge lace. Fig. 16, No. 1. For light grade single belts running over small pulleys six inches in diameter or under at high speed transmitting light power.

Single hole, double hinge lace. Fig. 16, No. 2. Medium and heavy grade single belt, high speed transmitting heavy power.

Single hole, double straight lace. Fig. 16, No. 3. For light and medium grade double belts in running over large pulley, sixteen inches in diameter and over, transmitting light power.

Double hole, double straight lace. Fig. 16, No. 4. For light medium and heavy grade double belts running over large pulleys, ten inches in diameter and over transmitting heavy power.

Double hole, double hinge lace. Fig. 16, No. 5. For medium and heavy grade single belt and light grade double belts over small pulleys, ten inches in diameter and under, at high speed transmitting heavy power.

STRAIGHT BOARD AND SQUARE GIVE BEST RESULTS

Using a board and square to square the belt end. Fig. 17. Squaring the end of a canvas belt, use a straight board on one edge and square to it, as shown in the view. This will give a much better surface to square to and gives a better guarantee that the belt will be square.

Punching the holes for the lace leather. Fig. 18. In punching the lacing holes the kind of lace to be used is decided upon, that is, single or double lace. The belt is then placed on the end of a block and the hole punched as shown in the view.

Lacing the belt. Fig. 19. The lace is then made. It is better on a large belt to have some one help to hold the belt. A more even job can be secured. Pull the lace tight each time a lace is made.

Hammering down the lace. Fig. 20. After the lace is completed, it should be hammered down with the hammer. This will smooth out the lacing and make it run smoother over the pulley.

CLEANING BELT TO INCREASE PULLING POWER

Removing the dirt and oil gum from the belt. Fig. 21 When a belt becomes saturated with oil a thick gum appears. This should be removed by scraping as shown in this view.

Washing the belt Fig. 22. After the belt has been scraped, place it in a gasoline bath and scrub well with a good stiff brush. Get it as clean as possible as this operation is very important for the successful cleaning of the belt.

Drying the belt. Fig. 23. Place the belt in a box that is filled with saw-dust for three or four days. When the belt becomes dry it can be removed and wiped off with cloth or brush.

Applying the belt dressing. Fig. 24. A good belt dressing is now applied rubbing it in well. The belt is now ready to be placed back into service.

REPAIRING A LOOSE BELT LAP

A loosened lap. Fig. 25. Punching the holes for rivets in a loose lap. When a glued lap becomes loose, it can be repaired by riveting. In this view the holes are being punched to receive the copper rivet.

Riveting down the lap. Fig. 26. The copper rivets with burrs are put in place and riveted over. The lap is now securely held in place, and is ready to be placed back into service.

* * *

DEVISE INTERCHANGEABLE THERMOCOUPLES

TUNNEL KILNS by reason of their development and greater use have brought forth new problems in the use of pyrometers. Due to the constancy of temperatures at different points along the length of the tunnel kiln, temperature measurement is different than in periodic kilns where any one single area of the kiln is subjected to the entire range of temperature thru which the ware passes.

It has been the practice among tunnel kiln users to use two sets of thermo-couples. Rare metal couples have been used in the hotter portions of the kiln while base metal couples have been employed in the cooler sections. The temperature registrations were then made on an indicator having two sets of scales so that the indicator by operating a switch reads temperature measurements obtained from the base metal couples on one scale and reads temperatures obtained from the rare metal couples on the other scale.

This double scale and switch arrangement has been necessary because the base metal couples and rare metal couples have had entirely different electro-motive characteristics. This can be illustrated by supposing that only one scale calibrated for a platinum couple had been provided, then if a base metal couple whose hot junction is exposed to 1,000 deg. Fahr. is connected to the instrument, the needle will go entirely off the scale, beyond the 3,000 degree mark.

On the other hand, a platinum couple used on a scale calibrated for base metal couples would read far below the actual temperature due to the difference in millivoltage generated by the respective couples.

Whenever a double calibration is used it requires that the needle on the instrument be set to correspond with the "cold end" of the couple. A correction for one scale will therefore not apply to the other, as an interval of 20 degrees

Pyrometer Recorder Keeping Records of the Burns of Many Kilns.

on a base metal scale at the lower end would correspond to several times as much on the rare metal couple. Secondly, as the "dead-beat" qualities of the instrument are dependent upon the proportion of resistance in the instrument and since switching from one scale to the other puts an altogether different resistance in the circuit, it is possible to make the instrument "dead-beat" on one scale only.

The double scale arrangement is confusing to the workman and by placing the wrong resistance in the circuit the readings on the scale may be confused.

Where it is desired to get graphic records in base metal sections as well as rare metal sections of the kiln, it has been necessary to provide separate instruments for each class of thermo-couple.

NEW COUPLE ELIMINATES DOUBLE SCALE

Following considerable research on base metal couples, with the view of solving these problems, the Chas. Engelhard Pyrometer Co. announces the development of a new couple which permits unity in the calibration of the instruments for use over the entire range of temperatures. This new base metal couple is said to have an interchangeability with the rare metal couple of within plus or minus 5 deg. C. between the range of 400 and 1,000 deg. C. Thus, with this base metal couple which is known as the Unicurve couple, it is possible to use the Unicurve thermo-couple in the low temperature section and a platinum and platinum-rhodium thermo-couple in the high sections, connecting them to the same indicator and reading temperatures from the same scale. This results in the following advantages: Indicators with but one scale can be used, thus simplifying the installation, and recorders with multiple switches can be connected interchangeably whether on base metal or platinum couples and the same chart can be used in either event.

The Engelhard people have published the following table which shows the actual difference at various temperatures between their new base metal thermal elements and the platinum and platinum-rhodium thermal element.

	Temperature (Deg. C.) Indicated by Rare Metal Thermo-Couple								
	200	300	400	500	600	700	800	900	1,000
Deg. C. Difference between Base Metal and Rare Metal Thermo-couple Reading..	+12	+8	+4	+2	0	—2	—5	—5	—5

It is claimed that the temperature range at which the new couple may be used is up to 1,200 deg. C., but it is recommended that it be used for no higher temperature measurement than 1,000 deg. C. (1,800 deg. F.) on account of the fact that for the higher range the life of the thermal elements is rapidly reduced.

* * *

Dr. Cottrell Resigns Directorship

Dr. F. G. Cottrell, director of the United States Bureau of Mines, recently handed his resignation to the President, thru Secretary of the Interior Payne. He leaves the bureau to take up his duties as chairman of the Division of Chemistry and Chemical Technology of the National Research Council.

In his letter of resignation, Dr. Cottrell says:

"May I recall to your mind that, in accepting this position upon the resignation of Director Manning last June, I explained to the Secretary of the Interior that I had previously made all my plans to resign from the position I then occupied as assistant director and to give my undivided attention to the position of Chairman of the Division of Chemistry and Chemical Technology of the National Research Council, which I had accepted.

"I accepted appointment as director of the Bureau of Mines on the understanding with Secretary Payne that I would continue therein until an available successor should be found who was thoroly acceptable to him and to the mining industry.

"It is with the pleasantest recollections that I look back over my decade of service in various capacities within the bureau.

"It would be with very deep feelings of personal regret that I should take the present step were it not that the position in the Research Council will still permit me to cooperate very closely with those particular aspects of the bureau's work for which I feel myself best fitted."

Dr. Cottrell recommended as his successor, H. Foster Bain, of California, whose name was formally presented to the President. Mr. Bain has had a very wide and thoro experience in work of this nature and is amply qualified to carry on the duties of the directorship.

CONVENTIONS IN PROSPECT

January 25, 26 and 27—Canadian National Clay Products Association, Carls-Rite Hotel, Toronto, Can.

January 31, February 1, 2 and 3—Common Brick Manufacturers' Association of America, Pennsylvania Hotel, New York City.

January 31, February 1, 2 and 3—National Brick Manufacturers' Association, Pennslyvania Hotel, New York City.

February 21, 22 and 23—American Ceramic Society, Deshler Hotel, Columbus, Ohio.

February—Kentucky Clay Products Association, Old Inn Hotel, Louisville, Ky.

Calder Recommends Records of Coal Sales

Senator Calder, following the disclosures before the Senate Special Committee, of which he is chairman, in regard to the National Coal Association, addressed the Senate recently commenting on the testimony which had been heard. He said that the committee recommended that all coal operators, wholesalers, jobbers and retailers, be compelled to file reports on tonnage produced or handled, the size and quality thereof, the amount of tonnage contracted for, the amount sold on contract and at spot sale, and to whom, together with the prices made or received under such contracts or sales.

The Senate Committee is endeavoring to find the persons responsible for the run-away coal market of last summer. It is particularly questioning the manner in which the National Coal Association, or its officers, discharged the duties placed upon them by the Interstate Commerce Commission when it asked the association to name members of a committee to serve with a railroad officials' committee and thus establish a joint committee to act as advisor to the commission and to collect information upon which the commission could issue service orders and take other important action to facilitate the distribution of coal.

CLAY PRODUCTS ASS'N. ADVERTISING CARRIES FORCEFUL PLEA *in* WELL WRITTEN COPY

ADVERTISING IS THE KEYNOTE of the success of any reputable product. It has been proven repeatedly that by force of advertising, of keeping the product continually before the eyes of the consumer, the manufacturer has been able to stimulate the demand for his products, even those which are considered staple commodities. Bearing this in mind the Clay Products Association with offices in Chicago and Pittsburgh, in 1920 conducted a campaign in magazines of national circulation.

The campaign was supported by approximately sixty manufacturers of clay products including manufacturers of vitrified sewer pipe, vitrified drain tile and fire clay products. Altho as separate units the various manufacturers are competitors in their fields, it was realized that in advertising, best results would be obtained thru cooperation. The campaign was conducted in engineering, trade and class journals and in magazines of national circulation. Of the last named the "Literary Digest" and "Collier's" were most extensively used.

Advertising in this manner, in which no particular firm is mentioned, is in some ways not as gratifying as, for instance, by manufacturers as individuals, in the local papers, inasmuch as results are not always directly traceable to that source. However, single instances serve to prove conclusively that advertising of this kind is read and of great benefit to manufacturers.

CAMPAIGN WIDE-SPREAD APPEAL

The campaign which the Clay Products' Association conducted was an appeal to city, individual and all users of vitrified clay products. In forcefully written copy, attractively illustrated, the advantages, and merits of vitrified clay products were brought out. The advertising matter issued resolved itself into three distinct kinds viz: sewer pipe, tile and fire clay flue lining. Of the three named probably most attention was given to sewer pipe. "Lay to stay, with vitrified clay" was the slogan adopted and the endurance and positive functioning of vitrified sewer pipe was brought home to the reader. Its imperviousness to acids, alkalis and sewer gases was another talking point in the advertisement. The cardinal point in the sewer pipe advertisement and one which is closely allied with the above qualifications, is the 100 per cent. sanitation which is possible with vitrified sewer pipe. "A sewer system in every town, a sewer in every street, every house connected with a sewer," was mentioned as the objective of the campaign. Probably the strongest appeal was made in behalf of the little children, the future lawyers, business men, doctors and citizens. It was pointed out that absolute sanitation would be conducive to a reduction in sickness and death.

VITRIFIED CLAY CULVERTS SUPERIOR

Vitrified clay pipe culverts were recommended and their superior merits over their competitors extolled. Altho these culverts are longer, extending beyond the edge of the road, they are cheaper to build than one of road width. Economy in lengthening the culvert lies in reducing the surplus head wall masonry. It is claimed for this type of culvert that it is indestructible. Time and the distintegrating influences of frost and heat do not affect the substance of the tile.

Fire clay flue lining is advertised as an inexpensive product guaranteeing absolute protection against chimney fires. Chimney fires, it is pointed out, are almost invariably the result of leaks, and sparks falling onto the roof. With flue lining, it is argued, soot will not collect in the chimney and the danger from sparks is obviated.

Supplementing the advertising campaign are several booklets which have been placed at the disposal of all those interested and may be had free. The books are "Why Your Dwellings are Destroyed by Fire," "How to Build a Safe Chimney," and "Most Drainage for the Least Money."

The effectiveness of a campaign such as this can not be questioned. In fact advertising may be given as the reason for the extensive use of materials in building which are inferior to clay products. Probably the only cause for the wide use of sewer pipe's strongest competitors, cement pipe and iron pipe, is the fact that manufacturers of these articles got together and brought their products before the eyes of the public. In asking for the support of manufacturers the Clay Products Association pointed out that an increase in business estimated at 30 per cent. would result from this campaign.

The advertising copy reproduced here shows just two of a great variety of striking and attractive advertisements used by the Clay Products Association to tell the story of vitrified clay.

Most of the material was designed to appeal to the common people from a view point of health and safety rather than a point of economy. The returns from this campaign were estimated at an increase in business of thirty per cent.

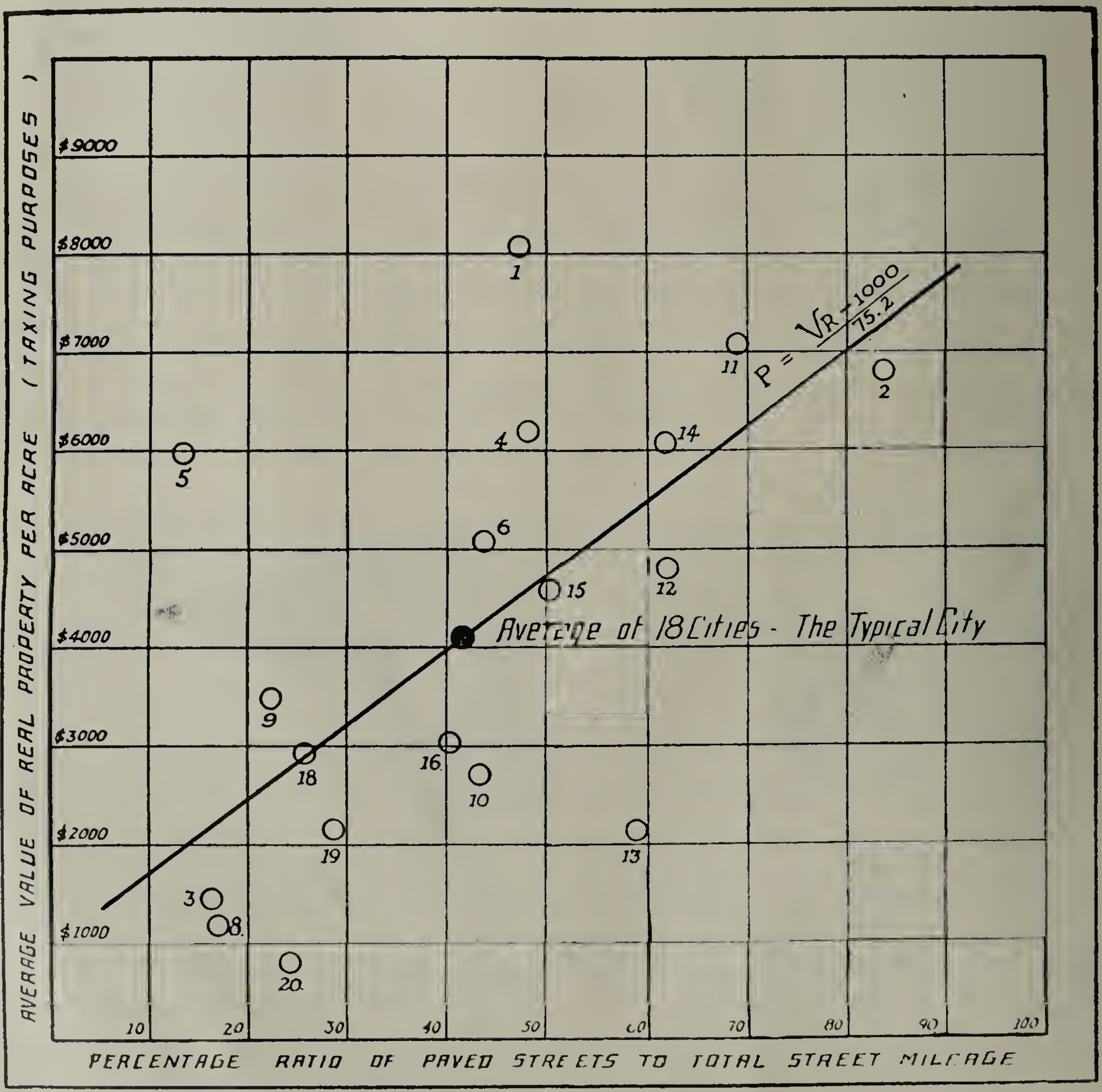
REVEALS HIGH PER CENT. *of* BRICK-PAVED STREETS

Investigation of National Paving Brick Manufacturers' Association, Conducted in 22 Cities of 20,000 Population, Shows Life of Brick Pavements to Be Longer Than Any Other Paving Material

ANY DOUBT as to the importance of vitrified brick for the paving of city streets may be laid at rest following a most unique investigation into the use of all materials, and the order of their use, recently conducted by Maurice B. Greenough, secretary, the National Paving Brick Manufacturers' Association, Cleveland, Ohio.

From a group of some 80 cities, representing an average population of 20,000 each, 22 cities, thru their city engineers, contributed information to a questionnaire that supplies this pertinent information for this purpose. Figures and information for the inquiry were used from 21 cities, the remaining city's aid being received after tabulations and charts were completed.

The oustanding feature, not only to the minds of brick manufacturer, but to those interested in the public welfare of their communities, and who recognize that civic progress depends largely upon how well the city's streets are paved and maintained, is that the compilation shows that of all materials used, vitrified brick represents 34 per cent. of the total. This figure is attained from 589 miles of paved streets in the following cities:



Field of Eighteen Cities With Respect to Their Real Estate Values and Paved Streets.

Alliance, Ohio, Ann Arbor, Mich., Appleton, Wis., Arlington, Mass., Barberton, Ohio, Beloit, Wis., Biddeford, Me., Bristol, Conn., Carbondale, Pa., Cohoes, N. Y., Danville, Va., Elyria, Ohio, Freeport, Ill., Lafayette, Ind., Oil City, Pa., Olean, N. Y., San Bernardino, Cal., Sedalia, Mo., Waukegan, Ill., Winona, Minn., Yakima, Wash.

BRICK STAND UP WELL

Reasons why this remarkable showing can be made are contained in the information submitted by the city engineers. They affirm that vitrified brick pavements give excellent results, withstand the heavy traffic, are most economical, are most durable, and, probably most important of all from the taxation point of view, are most easily repaired.

Thus is ascertained why 14 of the cities contributing this data use this material exclusively in the downtown business districts.

And in this connection is noted a most significent announcement from one city, to the effect that the present material largely used is being replaced with vitrified brick as fast as is necessary, as it is found the present material is cut up by the modern heavy type vehicle.

But probably the most important revelation of all is the statement that the average age of vitrified brick pavements in these cities is a little better than 23 years, while the next best age attained by any other material is 17 years.

To this point the inquiry has dealt with what has been accomplished in the matter of adequate street paving in communities of 20,000 inhabitants, and what aid the use of vitrified brick can give in that connection.

The inquiry goes farther, however, in pointing out the true measure of what a city of this size ought to have and do in the way of street paving. To ascertain this a comparison of real estate values and the percentage of paved streets in eighteen of the cities investigated, has been used.

To this end a table has been prepared, showing the number of miles of dedicated streets in each city; the miles of paved streets, percentage of streets paved, total real estate valuation, total acreage of the city, average value per acre.

It was found that the average miles of paved streets was 28.2, compared to 707 miles of dedicated streets, and that the average acreage valuation was $4,132.

With this and added information as a guide, a chart was prepared to show the average valuation of real estate per acre, and the percentage ratio of paved streets to the total street mileage. Use of the chart and index combined would show, therefore, the prospective paving requirements of the average city during any coming period of time. Thru this medium it is shown that by estimating the probable average value of real estate at the end of say five years, the equation will show the normal percentage of paved streets which the city should have at the end of that period.

WORK PUT IN BOOK FORM

The taxpayers' part in street improvements is thoroly covered in this inquiry.

The results of this work have been incorporated in book form, and upon the request of many city engineers in all parts of the country is being so distributed.

Besides bringing out the significent features of durability and economy in vitrified brick, the work has the added advantage of guiding the city in shaping its future street paving program, in maintenance, repair reconstruction and new construction.

It is reasonable to believe that if the results obtained with vitrified brick are so successful in the smaller cities of the country, like results proportionately should be obtained in all communities, while the value of the data contained in this work must be equally useful to both large and small communities.

* * *

Wages in East Have Come Down

Wage schedules for labor in the building industry in the eastern districts are on the downward trend, and neglecting rumors of anticipated cuts between now and the expected spring building season, a number of changes have already taken place. At Trenton, N. J., unskilled labor is now receiving 50 cents an hour, as against 65 and 75 cents a number of months ago; in other parts of the state a scale of 45 cents for unskilled labor in the building trades is prevailing. Contractors at Wilmington, Del., have reduced the wages of carpenters from $1.30 to $1.00 an hour, and a 25 per cent. cut is being arranged for masons and laborers. Union carpenters in Wilmington are asking for a scale of $1.12½ cents an hour. Union carpenters at Pittsburgh, Pa., are arranging for a reduction of 25 per cent. in existing wage schedules, making the change on the plea that it will help to stimulate building. Effective January 1, the Springfield, Mass., Building Trades' Association arranged a cut of 17½ cents in the hourly pay of common laborers, the change being 67½ cents to 50 cents. Bricklayers in this city have withdrawn their demand of some time ago for $1.50 an hour, in place of a present scale of $1.05, to become effective January 1, and will engage at the existing wage.

* * *

Coal Mines Can Ship 700,000,000 Tons a Year

J. D. A. Morrow, vice-president of the National Coal Association, at a hearing before the Senate Committee on Reconstruction and Production, which is conducting an investigation into the coal situation, declared that there was a "friendly difference" between George H. Cushing, managing director of the American Wholesale Coal Association, the National Coal Association, the Interstate Commerce Commission, and several million coal consumers in the belief that there was a coal shortage. "If there was not a coal shortage then the things we did were all wrong," Mr. Morrow said.

Mr. Morrow gave statistics on the production of coal, and said that the present bituminous coal mines can produce and ship 700,000,000 tons of coal a year if there was no interruption due to transportation difficulties or strikes.

* * *

Lower Prices in U. S. Than Europe

Figures issued by the British Ministry of Labor giving the rise in retail food prices since 1914 show that the United States and Canada, among the Allied countries in the war, are at present considerably less affected by high prices than Great Britain, France or Italy. The appended table, from a copy of the Labor Ministry's report just received by the Foreign Information Department of the Bankers Trust Co., of New York, gives the percentages of increase:

(Per Cent. Increase Over July, 1914)

	Rise		Date (1920)
Great Britain	191		Nov.
France	320	(Paris)	Oct.
Italy	224	(Rome)	Sept.
Belgium	371		Sept.
Canada	115		Sept.
United States	95		Oct.

Clothing, lighting, and fuel are included for Belgium, and fuel and lighting for France.

* * *

Union Will Not Tolerate Poor Brick Work

Building permits amounting to more than $3,000,000 have been issued in Sacramento to date this year. This amount is almost double that of the same period last year. Building operations on a scale hitherto unknown continue in and around Los Angeles.

Some interest attaches to the statement of delegates at a recent convention of the union bricklayers of California at Fresno, that it was unlikely there would be any demand for changes in wage scales or hours in the near future. No upward revision of present scale are planned said delegates because of recent reductions in the cost of living and prospects of further recessions.

A notable action of the bricklayers' convention was the decision to make state-wide the penalty of a fine on any member of the union guilty of inferior work. A member of the San Francisco union had appealed against a fine inflicted by his union, but the convention sustained the union, maintaining that such a law would lead to better work, that it would be better for the building industry generally, a protection to those building and a means of combating unscrupulous contractors who might rush work to obtain money quickly.

* * *

Many Steel Mills To Shut Down

According to the "Iron Trade Review," Cleveland, Ohio, the announcement of wage reductions, which promise to spread, and the closing of many plants for an indefinite period, mark a new and advanced stage in the liquidation process in iron and steel. It is estimated that fully fifty per cent. of the steel making and mill capacity of the country will be shut down until some time after January 1, 1921.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

STILL A SELLER'S MARKET

STATISTICS compiled by various business associations and business analysts present charts which show dealers to have on hand rather large stocks bought at high price level, but this data does not bear out facts so far as stocks of domestic pottery is concerned.

If anything, stocks of domestic pottery in the hands of distributing interests, which include jobbers and department stores, are lower now than ever. During the last year, distributors have been unable to obtain sufficient amounts of this class of merchandise to supply the wants of their trade.

No opportunity has been presented distributing agencies to accumulate stocks, as manufacturers have been unable to supply the demand.

The raw material market continues to hold firm, so far as manufacturers are concerned. Present wage agreements will not terminate until Oct. 1, 1921. With these two factors to be considered, lowering of selling prices is out of the question.

It has not been denied that a host of orders calling for dinnerware for the 1920 holiday trade never saw the light of day. As manufacturers have been working under the established rule of shipping orders in the rotation of receipt, those dealers who did not receive their holiday requirements were in the main those who did not anticipate their requirements as early as they should have done.

While no small amount of business with the manufacturers was cancelled late in November and during December, the fact remains undisputed that the amount of new business accepted for future delivery during the "cancellation period" was far in excess of cancellations.

Not a small amount of the cancelled orders have been returned to pottery manufacturers, these buyers asking that such business be reinstated.

DINNERWARE SCARCITY ACUTE

The scarcity of domestic pottery, both dinnerware and other specialties is more acute now than at any time during the war period. This is just the reverse situation in the textile and possibly other lines. Just as long as the demand for domestic pottery continues and just as long as manufacturing costs remain at present high levels, buyers have come to realize this one fact: that if they are to continue to handle the line, they will have to buy the product, no matter what the cost may be.

Last January, a meeting of domestic pottery buyers was held in Pittsburgh, and the opinion prevailed after this session that an effort would be made to "bear the market." In other words, the buyers, or a number of them made a concerted effort to inaugurate a buyers "strike."

The morning after this "strike" started, the clan visited the East Liverpool (Ohio) district, and went 'round the circuit of sample rooms. Manufacturers told these buyers, in plain cut diplomatic terms that it was impossible to shade selling lists. Then and there ended the "strike." First one and then another started to place business for immediate and future shipment. Some buyers duplicated their requirements with several firms, this with the idea in mind that they would get something.

BUYERS WILL FACE SAME POSITION IN 1921

Then followed the shipping of this and that order, and buyers realizing that the demand was heavy, were only too pleased to accept anything and everything that came their way.

Conditions which the buyers of domestic pottery faced in January, 1920, will be the same picture they will view when they come into the domestic pottery market during January, 1921. These buyers will view order files crowded just as much as they were a year ago, and the market slightly firmer on account of advanced wages and material costs manufacturers have been compelled to pay during the last year.

Not a few buyers, especially those who have been active during 1920 in turning over their stocks, now realize that if they are to obtain merchandise in 1921 they must of necessity anticipate their requirements into the third and fourth quarter.

Much 1921 business has already been received by all generalware pottery manufacturers. Many of these specifications have been on file for months—this proving that the alert buyer fully realizes the situation that confronts the manufacturers.

Increased production during 1921 will go a long way toward relieving the congested condition of all order files. If the generalware pottery manufacturers were enabled to obtain normal production instead of from 65 to 70 per cent. of capacity, the situation that now prevails would be greatly relieved.

Nowhere have manufacturers received an intimation that material costs will be reduced, and it would create no surprise to them to receive changes of advances in some particular lines of materials during the first quarter.

The buyer who is first to anticipate his future requirements is the one that will receive deliveries. This much is assured.

⁂

Potteries Still Months Behind on Orders

Conditions as exist in the generalware pottery market today indicate that it is a seller's proposition and not a buyer's market. In other words, buyers are unable to obtain merchandise at "their" prices, but only at the regular list. This, as it concerns the buying season, was anticipated some months ago, and is now a reality.

It is not denied by some pottery manufacturers that they have just barely started to scratch their 1920 business, while others do not hesitate to conceal the fact that they have from six to nine months' business on file at this time.

Many buyers realize that manufacturers are crowded with business, and also that if they expect to continue handling domestic pottery lines they will have to anticipate their future requirements as early as possible.

Attention has been called to the fact that when the domestic pottery market started to advance, this during the war period, it was one of the very last of the industries of the country to put a new selling list in effect. Other lines of merchandise suffered advance after advance during the war, and the advances announced on pottery were but nominal when compared with other lines.

As a matter of fact, the lines that were advanced in price first have been the first to announce reductions. The last lines of merchandise to be advanced will be the last to show a decline.

Eventually, this will be recorded, but as long as present cost conditions exist, there will be no lowering of selling lists. This is admitted by all who have made a close study of the situation.

* * *

Using Coal and Oil in Preference to Gas

Altho gas has been refused for industrial purposes on account of cold weather, the production of East Liverpool, Ohio, potteries will show an increase this term over that of 1919. In former winters, pottery manufacturers have depended entirely upon natural gas for fuel. This season coal and oil have been substituted for kiln fuel.

It is estimated that about 100 kilns in the East Liverpool district are now using either coal or oil for fuel.

Where kilns are depending upon gas for fuel, these have been shut off from service numerous times, and during the cold season since Christmas manufacturers have been forbidden to light kilns with gas.

By placing approximately 100 kilns under coal and oil, the production of the season as a whole will show a decided increase over that of previous years. Such a volume of ware will relieve the tension slightly, so far as trade requirements are concerned, as the receipt of new business is far greater than shipments.

The "no gas" story which manufacturers told buyers every winter for years past is still "good" in many respects, but by the use of coal and oil as a fuel the manufacturers have taken a long step forward in an effort to keep operations as near normal as possible during the present winter.

So far as the use of oil is concerned, the Potters Co-Operative Co. will operate more kilns with this fuel than any other plant in the East Liverpool district. A year ago the kilns of this concern were fired with coal and gas, and very little production was obtained from those kilns using gas. This concern will show a greater capacity during this season of the year than ever before.

There is no denying the fact that manufacturers of domestic pottery will no longer depend upon natural gas as a fuel for kilns during a winter season. Where oil is being used as a fuel, this system will be continued on these kilns during the year.

Coal is in greater receipt, and manufacturers are not experiencing the trouble in obtaining a supply which they did a year ago. Therefore, the fuel situation in the East Liverpool district for the 1920-1921 winter season is far better than a year ago.

To Confer with Ways and Means Committee

Members of the executive committee of the United States Potters' Association left East Liverpool, Ohio, the night of January 9, for Washington, D. C., where on the following two days they will appear before the Ways and Means Committee of Congress to open discussions anent the Earthenware schedule of the proposed tariff bill. W. L. Smith, Jr., of the Taylor, Smith & Taylor Pottery Co., Chester, W. Va., is chairman of this committee, altho the committee was accompanied by W. Edward Wells, of the Homer Laughlin China Co., who, upon frequent occasions in the past, has taken part in the discussions before the Ways and Means Committee.

* * *

Potters To Enforce Wage Agreements

Hereafter pottery manufacturers who hire a worker who is a member of the National Brotherhood of Operative Potters and that worker does not present a discharge certificate signed by the former employer, the employing firm is fined $100 for each and every offense by the Western Discharge Committee of the United States Potters' Association. The object of this rule is the enforcement of an agreement made a part of the "Astor Wage Agreement" nearly ten years ago, but which has been "elastic" during the war period. The enforcement of the agreement has been insisted upon by the manufacturers themselves. Provisions of this agreement were promulgated at a joint conference between the labor committee of the United States Potters' Association and the executive committee of the National Brotherhood of Operative Potters.

* * *

First Week of New Year Quiet

Never was the first week in January so inactive in the East Liverpool, Ohio, district, so far as the arrival of buyers is concerned, as was experienced this year. There was practically nothing doing. The situation caused no surprise among salesmen or manufacturers, as in most all instances the first week was occupied by buyers in taking inventories. The month as a whole, however, promises much buying.

* * *

Public Wants American-made China

To a close observer, the demand for American-made china, both for hotel and home use, is increasing by leaps and bounds. It has not been so many years ago when this class of merchandise was looked upon by many as a luxury, but today is considered a necessity. Time may not be distant when more American potteries will confine their activities to the manufacturing of china, as it is known the step from manufacturing semi-porcelain to china is no long one.

* * *

Business Continues Normal

At the annual meeting of the stockholders of the Hall China Co., East Liverpool, Ohio, the following officers were elected: President, F. I. Simmers; vice-president, Harvey McHenry; secretary-treasurer, Malcolm W. Thompson. Mr. Thompson has succeeded to the duties of the late Robert T. Hall.

"A normal mail business is being received," declared Mr. Simmers just before he left for Pittsburgh to display his line at the Ft. Pitt Hotel in connection with the annual Glass and Pottery Exposition. "We are very optimistic concerning the outlook for business for 1921, and believe that we'll be operating on schedule just as actively as we did during the old year."

Cut showing the discharge end of 3 No. 115, and one of the No. 116 PROCTOR STOVE ROOMS at the plant of the IROQUOIS CHINA COMPANY, Syracuse, New York.

Proctor Stove Rooms

Have proven by actual performance that they will dry pottery, porcelain abrasive products and general ware efficiently with a reduction of 50 to 75% in time and labor with less than 1% waste in cracked ware.

Mr. Kerr, of the Iroquois China Co., Syracuse, N. Y., writes.

"Your machines have been in continuous operation for the past four months and have proven most satisfactory in every way. They have enabled us to materially increase our production. The ware is dried with absolute uniformity and is ready for the kilns when taken off the machine. It is unnecessary for us to say that we are very well pleased with the installation and are contemplating the installation of four additional machines."

The Public is invited to correspond with the Iroquois China Co. as to the superiority of the installation of our equipment.

Tell us your drying requirements. Each Engineer on our staff will make a personal study of your needs so that you will receive full information on just the stove room you want.

Remember—The PROCTOR GUARANTEE goes with every stove room.

PROCTOR & SCHWARTZ, Inc.
Philadelphia, Pa.
Formerly
Philadelphia Textile Machinery Co.

Specialized Experience
Backed by 36 Years of
the
PROCTOR Principle
Covering
Correct Drying
Practice

"Proctor" DRYERS

How Do You Dry Your Clay Products?

We know there are so many different drying methods, each claiming to be the "Best," that it is hard for the Clay Manufacturer to decide just what he ought to do.

YET—If you can be convinced by cold facts and figures, the results of individual study by each Engineer on our staff, in what is best for you—

Then

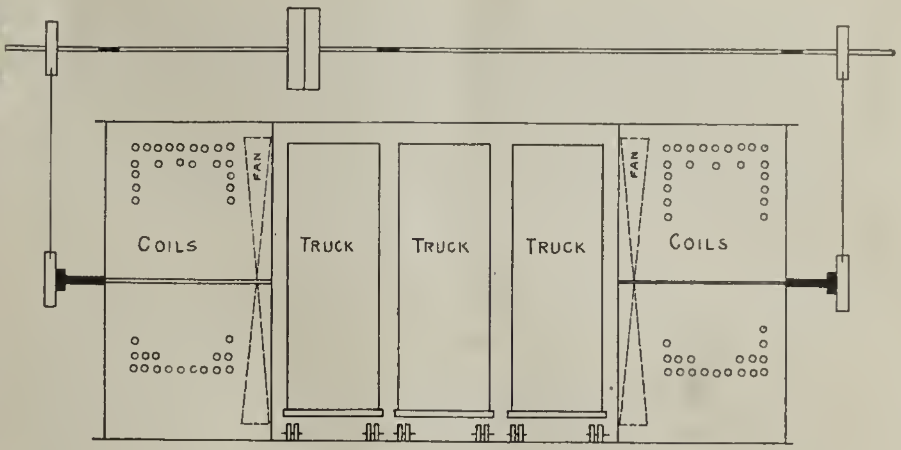
We are satisfied to take our chance on your installing a

PROCTOR DRYER

We Make No Claims We Cannot Prove.

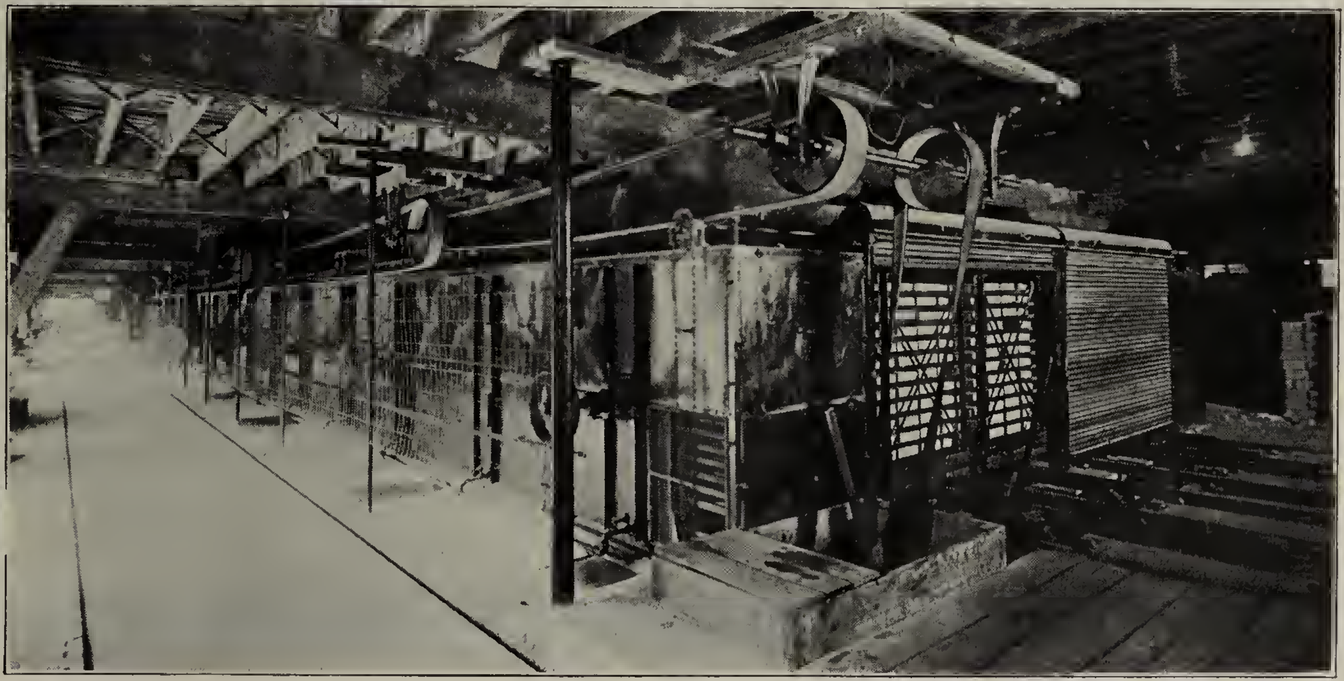
We Ask Only a Fair Investigation as to the Merits of Our Claims.

We Want Your Confidence as Well as Your Business.



Cross Section of Type A Proctor Dryer. The arrangement of fans and coils at either side and the three lines of cars in the center are clearly shown.

TYPE A PROCTOR DRYER
This type of machine is used for drying material on rack cars. The fans and coils are on each side of the car space. In this type of machine the circulation of air is across the car spaces.



Ask for Full Information—We Will Gladly Send It.

Branch Offices
New York Chicago
Pittsburgh Providence

for CLAY PRODUCTS, POTTERY AND GENERAL WARE

Ships Large Order to Japan

The Patterson Foundry & Machine Co., of East Liverpool, Ohio, manufacturer of pottery equipment, has just forwarded a $50,000 order of machinery to the Japanese government, all to be shipped from the port of New York. This order was for a plant interested in the manufacturing of chemicals. The firm does not accept business for pottery machinery for export shipment.

* * *

Largest Vitreous China Makers

In addressing employes relative to business conditions and plant matters, C. S. Maddock, Jr., of the Thomas Maddock's Sons Co., Trenton, N. J., sets forth that he is informed by those who make a study of economic and business conditions that the present slowing up in all lines of business is only temporary, and that a quickening in all branches of trade, including the sanitary ware industry, is expected early in the spring. In reviewing plant conditions, it is pointed out that early in the year, the company completed and placed in service the new five-kiln addition at its works, which building made the Maddock plant the largest individual sanitary pottery specializing in vitreous china in the United States. Comment is made as to the results attained at the plant in response to the call for production, and that these accomplishments were due, it is held, to "all pulling together."

* * *

Pottery Maker Interested in New Hotel

When the new $1,000,000 Ft. Steuben Hotel was opened at Steubenville, Ohio, a few days ago, one of the proudest of the stockholders was none other than Harry W. Wintringer, president of the Steubenville Pottery Co. Mr. Wintringer with other business men of Steubenville labored to put the deal over. The building is of brick construction, and is admitted one of the most modern between New York and Chicago.

* * *

Enamel Company Leases Property

The Porcelain Enamel & Mfg. Co., Baltimore, Md., has leased property now occupied on Eighth Street, near O'Donnell Street, totaling about 100x108 ft., and extending on both thorofares. The company will continue to pay a ground rent as heretofore, and expects to maintain its works at this location.

* * *

Oil Tank Guards Against Fuel Shortage

The 250,000 gallon oil fuel tank built for the Potters Co-Operative Co., of East Liverpool, Ohio, has been placed in service this week. There will be no scarcity of fuel with this concern hereafter. This will tend to increase the production of the plant, as kilns can be fired off on regular schedule, even to the decorating kilns, which are to be fired with oil as soon as equipment can be attached.

* * *

Calendars Show "Natural" Scenes

A very attractive assortment of calendar plaques for 1921 is being shown by the D. E. McNicol Pottery Co. One of the best numbers, however, is a series of hunting scenes, dogs and birds, with a color effect that is "close to nature." On all pieces, the 1921 calendar is a feature. The specialty is designed for the jobbing trade, and in a few weeks the company will have the entire line fully illustrated.

Starts Clay Manufacturing

The manufacture of clay has been started at the plant of the Davidson Porcelain Co., Canton, Ohio, Will S. Davidson, president of the company, announced. Until the first of the year the plant will operate only in certain departments. It is then planned to commence operations in all departments soon after the first of the year. At the start, a force of seventy-five will be employed. The company, which was formerly located in East Liverpool, Ohio, is engaged in the manufacture of electric porcelain products.

* * *

May Resume Construction in Spring

Probably in the spring the W. S. George Pottery Co., of East Palestine, Ohio, will resume construction of its new kiln plant in East Palestine, work upon which was delayed during 1920 on account of the inability to obtain machinery, building materials and labor.

* * *

Develops Unique Pattern

One of the newest of designs in decorations is being shown by the Edwin M. Knowles China Co., of Newell, W. Va., for 1921 delivery. The pattern is known as the "drop-stitch," the idea being taken from knitting of that character. The little squares are done in various colors and designs, and when shown on child sets create a decoration novelty that is not surpassed. The pattern is controlled by this firm and is presented for the first time.

* * *

Builds Glost Kiln and Decorating Shop

One glost kiln has been added to the capacity of the Summit China Co., at Akron, Ohio, also a new pair of decorating kilns, this giving the plant a capacity of seven glost and bisque kilns. A new decorating shop has been placed in operation, and the new office building is now being used. This concern is showing six new border patterns on its plain shape dinnerware for 1921 delivery, the sample line just being placed before the trade.

* * *

Louisville Stoneware Company Organized

Articles of incorporation were filed by the M. B. Cooley Co., Louisville, Ky., who will manufacture queensware and stoneware. The capital stock is $25,000 with par value of $100 per share. Incorporators are William B. Cooley, W. F. Booker and L. D. Powell, with three shares each.

* * *

Rearranges Sample Room

The sample room of the E. M. Knowles China Co., Newell, W. Va., has been rearranged for the reception of buyers in January. A number of new patterns are being shown for the first time, and one table is tastefully arranged with ware possessing a new pattern and including a "set up" of glass and silverware. In the center of the table is a three-arm candle piece. The arrangement of the room was under the direction of George Bratt, western salesman for this company.

* * *

Holiday Inactivities Brief

The annual holiday "loaf" in the East Liverpool, Ohio, potteries was brief. Some manufacturers suspending operations for Christmas and New Year's day only. In some instances, plants were shut down from December 24 until January 3, but in such cases kilns were relined and other important plant improvements and repairs made.

During the idle period inventories were taken. In all potteries, however, operations were resumed in full January 3.

* * *

Pottery Man Becomes Legion Commander

Capt. J. Donald Thompson, sales manager for the Thompson Pottery Co., of East Liverpool, Ohio, has been elected Post Commander for the American Legion of that city. Mr. Thompson saw active service abroad, was severely wounded, and his election as Post Commander came to him as a surprise but, nevertheless, deserved.

* * *

Well-Known Pottery Man Deceased

The death of Ernest P. Mayer, of the Mayer China Co., of Beaver Falls, Pa., was regretted by no one in the East Liverpool district more than by Albert V. Bleininger, in charge of the research department of the Homer Laughlin China Co. "I hastened from the annual meeting of the United States Potters' Association meeting in New York to Beaver Falls as soon as I learned of the death of Mr. Mayer," observed Mr. Bleininger. "I not only knew him as a worth-while ceramist, but I loved him for his sterling character. He was a man. He worked like an Edison and it seemed at times as if his labors were never ended. Home from his plant for evening dinner, a little while in the company with his family, then he hied himself to his home laboratory, where he continued his research work far into the night, ofttimes into the morning hours.

ERNEST P. MAYER.

"Whatever Mr. Mayer learned in his laboratory, this knowledge was as free as the air to others. His delight in life was to assist, rather than retard. Yes, Mr. Mayer was a man—a man whose life was really worth while."

To Manage Chittenango Pottery Co.

Allen W. Surles, for many years identified with the office force of the D. E. McNicol Pottery Co., East Liverpool, Ohio, has resigned from that firm to take up the management of the Chittenango (N. Y.) Pottery Co.'s plant. Mr. Surles is at the head of a new Ohio corporation which has taken over this property, and it will be placed in operation within a short time. A line of teapots will be featured. Much material is on the ground, including ten or more cars of coal.

* * *

Celebrates Eightieth Birthday

Jacob Shenkle, one of the founders of the Globe Pottery Co., which featured yellowware in the early days of the industry in East Liverpool, Ohio, observed his eightieth birthday the evening of January 1. A large number of his Masonic friends gathered at the home of Mr. Shenkle and a merry time followed. He is well known among the old time jobbers and buyers.

* * *

Visits Home Office

E. D. Brennan, Chicago representative for the Taylor, Smith & Taylor Pottery Co., of Chester, W. Va., who has been spending several days at the home office arranging his new lines for the coming year, has left the district. He is a brother of Miss Ella Brennan, one of the most noted of pottery department heads in the State Street district, Chicago.

* * *

New Border Patterns for Dinnerware

Six new border patterns are being shown this season on the plain dinner shape of the Taylor, Smith & Taylor Pottery Co., of Chester, W. Va. These designs are exclusively controlled patterns.

* * *

Pottery Firemen Hold Banquet

Members of the fire department at the plant of the Crescent Pottery, Trenton, N. J., held their annual banquet at Hotel Sterling on December 21. Covers were laid for 60 members and guests. Among the invited guests were John A. Campbell, president of the Trenton Potteries Co.; Elsey Aitkin, general manager; Colonel Lewis Bryant, treasurer, and Charles E. Lawton. Jacob Beck, head of the organization, acted as toastmaster.

* * *

Plans to Erect Chinaware Plant

The Schmidt Color & Chemical Co., Porter, Ind., of which H. G. Schmidt is head, is contemplating the construction of a new pottery plant at Valparaiso, Ind. The plant will be used solely for the manufacture of chinaware.

* * *

Festive Week at Maddock Pottery

Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary ware, held a "festive week" at the plant, December 20-25, being the eighth annual event of this kind. A program of exceptional entertainment and interest was arranged and employes entered fully into the spirit of the different meetings. An entertainment was given at every noon hour thru the week, and following a musical and vocal program, refreshments were served to those gathered together. The different meetings were marked with great success.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Deterioration That Is Often Disregarded

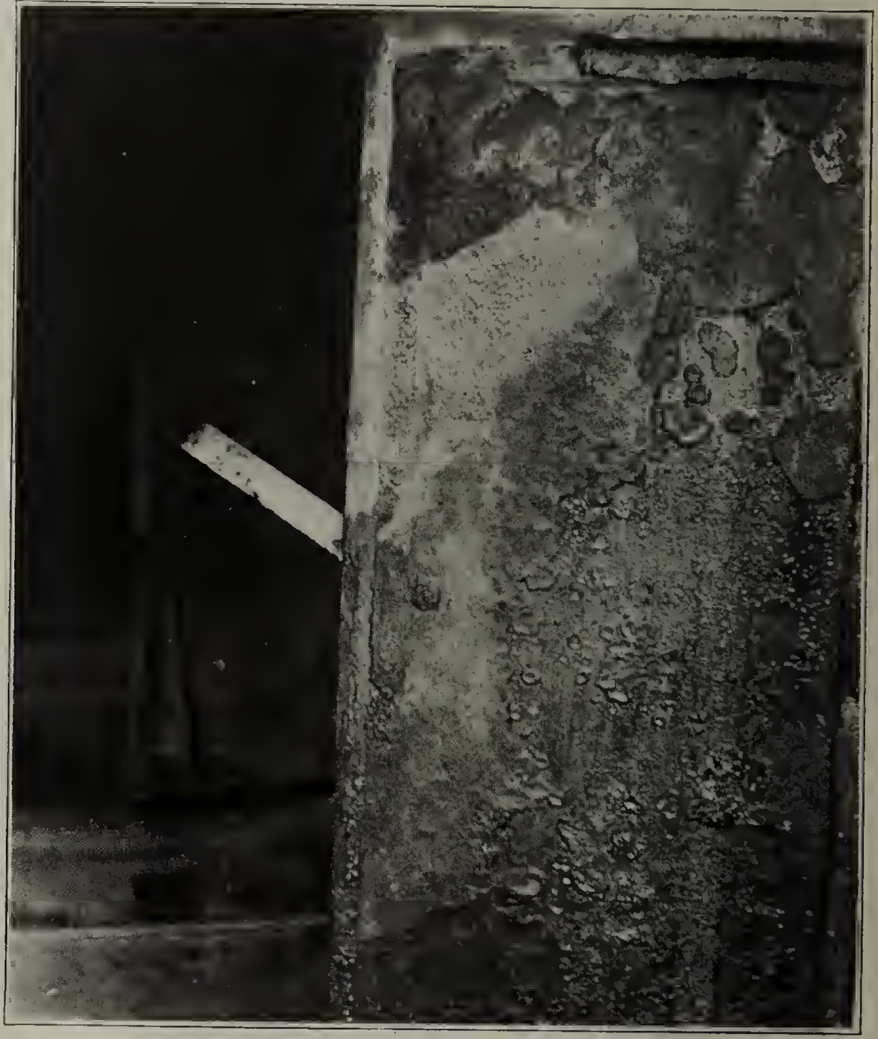
Deterioration of the nature shown in the accompanying view of a clay plant dryer door is not infrequent. Most any superintendent or owner upon examination of his dryer doors will find the surface facing the dryer interior, disintegrating and rusting away to a state where it is barely holding together. Examine the photograph and you will note that the hinge is almost ready to relinquish its hold upon the door and the door itself is being eaten away so that its life is but a question of days.

The cause for such a condition of the dryer door existing on a clay plant is easy to explain. In waste heat dryers there is constantly flowing thru the tunnels an enormous amount of gases drawn from hot kilns which still contain some of the products of combustion of the fuel used in burning. These gases contain sulphur compounds which, together with water, tend to form sulphuric acid which corrodes metal rapidly. Secondly, the moisture evaporated from the ware in process of being dried and which is heated by the gases, plays a very important part in the rusting of the metal. Moisture at high temperatures as exist in the dryer brings about much more rapid oxidation of the metal parts it comes in contact with than if it were of normal outside temperature. Rusting of metal is simply due to oxidation.

In the case of steam dryers, you do not have the presence of combustion gases but there is the same action on the metal parts in the dryer as in the waste heat dryer due to the hot moisture present in the tunnels. Radiated-heat dryers are similar to steam dryers in this respect.

It is not only the dryer doors that are subjected to rusting and corrosion but the dryer cars are also effected similarly. Even on a small plant having only 125 dryer cars and an eight tunnel dryer the depreciation on dryer cars and dryer doors is a considerable item too often unheeded.

This rapid deterioration can be checked by proper treatment of the metal surfaces exposed to the dryer atmosphere. Such surfaces should be painted at least twice a year with some good rustproof paint. The painting cost would be more than offset by the saving in depreciation and the more satisfactory service obtained from the dryer cars and doors.



Door of a Waste Heat Dryer Rusting Away to a State of Uselessness. Two Coats of Paint a Year Would Prevent this Deterioration.

Reactions That Must Be Accomplished During Dehydration Period

When the watersmoking period in burning has been completed, there should exist a uniform temperature from top to bottom of the kiln and this temperature should be somewhere between 250 and 400 deg. F. depending upon the product being burned and the physical and chemical characteristics of the clay. The next operation in the procedure of burning the clay ware, then, is to dehydrate it. During this stage the water in chemical composition with the clay is driven out. This water is actually combined with the minerals that are contained in the ware and cannot be evaporated like the mechanical water which is driven off during the watersmoking period. A decomposition of the clay must take place and this requires considerable heat in order to bring about the proper chemical reaction. This chemical reaction which liberates the last traces of water occurs at a temperature around 1020 deg. F.

Besides the separation of the chemically combined water during this stage, there are several other reactions that may take place dependent upon the composition of the clay. These are: The decomposition of carbonaceous matter, distillation of half of the sulphur from pyrites, breaking down of iron carbonate and reduction of iron compounds.

CURRENT PRICES *of* COMMON BUILDING BRICK, DRAIN TILE *and* HOLLOW BUILDING TILE

IN THE LAST MONTH common brick has shown a slight decline in price. The average decline during the month in cities listed below, is about $1.95 and in some instances advances have been reported. Out of the eighty-three cities listed below nineteen reported decreases in prices, four showed increases ranging from $0.50 to $3.00 while sixty held steady at old prices.

The changes reported in 4-inch drain tile are negligible, Baltimore, Md., Nashville, Tenn., and New Orleans, La., being the only cities showing a difference in price. Prices in these cities dropped one cent.

Hollow tile in some instances showed a decided decline. The sharpest reduction took place in Bloomington, Ill., where the price receded $25.00. Altogether nine cities show a change in price for the month. These nine cities represent nine different sections of the country.

The footnotes are explained at the bottom of the following tabulation:

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	$28.00	.12	
Boston, Mass.	30.00	.153	300.00£
Providence, R. I.	39.00	.15	
Hartford Conn.	30.00*	.15	
New Haven, Conn.	35.00	.10	
New York City	22.70	.17	
Albany, N. Y.	25.00	.085	
Utica, N. Y.	35.40	.08	
Syracuse, N. Y.	27.00	.08	
Oswego, N. Y.	40.00	.07	
Binghamton, N. Y.	28.00	.06	
Elmira, N. Y.	35.00	.08	
Rochester, N. Y.	24.00	.075	100.00
Buffalo, N. Y.	34.00	.055	150.00
Jamestown, N. Y.	35.00	.095	160.00
Allentown, Pa.	28.00	....	
Erie, Pa.	28.00	8.50c	140.00
Philadelphia, Pa.	25.00	.07	115.00
Pittsburgh, Pa.	25.00	.08	150.00
Reading, Pa.	22.00	.07	
Scranton, Pa.	28.00	.08	
Newark, N. J.	26.00	....	
Paterson, N. J.	25.50	....	200.00
Trenton, N. J.	29.00	.10	
Wilmington, Del.	28.00	.08	
Washington, D. C.	24.50	.10	125.00
Baltimore, Md.	25.00	.10	125.00
Norfolk, Va.	26.00	.10	
Richmond, Va.	25.00	.12	
Huntington, W. Va.	23.00	.075	125.00
Fairmont, W. Va.	33.00	.06	146.50
Wheeling, W. Va.	30.00	.085	140.00
Atlanta, Ga.	25.00	.125	
Miami, Fla.	40.00	....	200.00
Tampa, Fla.	26.00	....	155.00
St. Petersburg, Fla.	28.00	....	166.50
Frankfort, Ky.	30.00	.08	120.00
Louisville, Ky.	25.00*	.0515	126.30
Lexington, Ky.	28.00	.10	
Memphis, Tenn.	20.00	.07	
Nashville, Tenn.	20.50	.09	134.70
Birmingham, Ala.	25.00	.25	116.00
New Orleans, La.	23.50	.10	
El Paso, Tex.	17.00	....	110.00
Houston, Tex.	25.05	.15	123.10££
Dallas, Tex.	24.00	.15	120.00££
Topeka, Kans.	25.00	.065	110.00
Little Rock, Ark.	20.00*	.12	
Oklahoma City, Okla.	22.50	.05	88.50
Cincinnati, Ohio	25.00	.0708	140.00¶
Cleveland, Ohio	22.00	.061	90.00
Columbus, Ohio	30.00	.065	
Toledo, Ohio	18.00	.06	135.00
Detroit, Mich.	20.00	.08	124.00¶
Evansville, Ind.	16.00	.04	110.00
Fort Wayne, Ind.	23.00	.06	120.00
Indianapolis, Ind.	19.00	.09	164.40
South Bend, Ind.	24.00	.04	151.62
Terre Haute, Ind.	19.00	....	
Bloomington, Ill.	25.00	.06	100.00
Chicago, Ill.	16.00	.08	112.50
Moline, Ill.	24.00	.08	120.00
Peoria, Ill.	19.50	.075	78.00
Green Bay, Wis.	21.00	.06	145.00
Milwaukee, Wis.	22.00	.08	145.00
Grand Rapids, Mich.	22.00	....	
Minneapolis, Minn.	20.00	.08	135.00
St. Paul, Minn.	20.00	.08	135.00
Davenport, Iowa	25.00	.08	130.00
Des Moines, Iowa	....	.12	120.00
Sioux City, Iowa	22.50	....	130.00
Kansas City, Mo.	25.00	.062	
St. Louis, Mo.	20.00	.085	145.00
Lincoln, Neb.	21.50	.08	100.00
Denver, Colo.	17.00	....	165.00
Butte, Mont.	16.00	....	
Los Angeles, Calif.	15.00	.05	100.00§
San Diego, Calif.	20.50	.105	92.50§
San Francisco, Calif.	20.00	.065	100.00
Portland, Ore.	21.00	.085	115.00
Seattle, Wash.	19.00	.09	115.00
Winnipeg, Man.	20.00	.13**	115.00
Toronto, Ont.	18.00	.075	
Halifax, N. S.	27.50	....	
Quebec, P. Q.	20.00	.07	

The prices of the commodities listed here are reported as delivered on the job, and are, therefore, higher than the plant prices. This should be taken into consideration when examining them. If you have any information that would tend to prove these prices incorrect, the editors of **Brick and Clay Record** will be glad to hear from you.

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% disc., 15 days.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipment; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

Insulation Protects Kilns

It has been proved in actual practice that effective insulation increases the productivity of kilns by protecting them against heat losses.

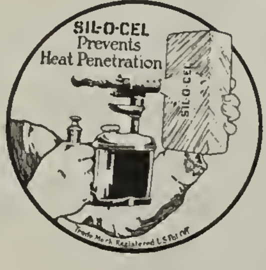
SIL-O-CEL

insulation is the most effective form of protection for your kilns. It prevents heat penetration and radiation from the surfaces. The low heat conductivity factor of Sil-O-Cel tends to seal the heat in the kilns and thereby reduce radiation losses to the minimum and provides better control of temperatures.

Bulletin R-71 gladly sent on request.

CELITE PRODUCTS COMPANY

New York
Pittsburgh
Chicago
St. Louis
Philadelphia
Detroit
Cleveland
Los Angeles
San Francisco



SAUERMAN

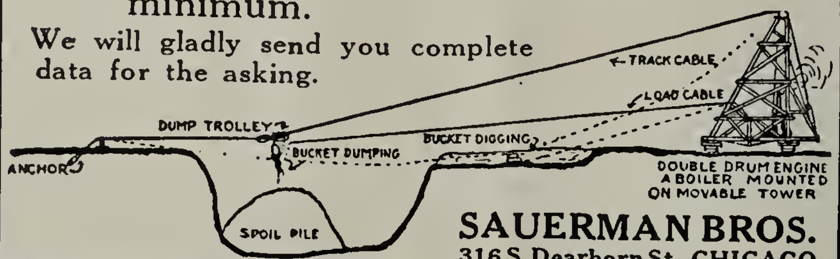
Dragline—Cableway—Excavator

Digs, Conveys and Dumps in one operation.

Cuts labor and digging costs to a minimum.

We will gladly send you complete data for the asking.

SAUERMAN BROS.
316 S. Dearborn St., CHICAGO



It Makes No Difference What Your Requirements May Be—We Have the Car for Your Needs

Dryer cars of any size or type. Transfer cars turntables, wheel barrows, wheels.

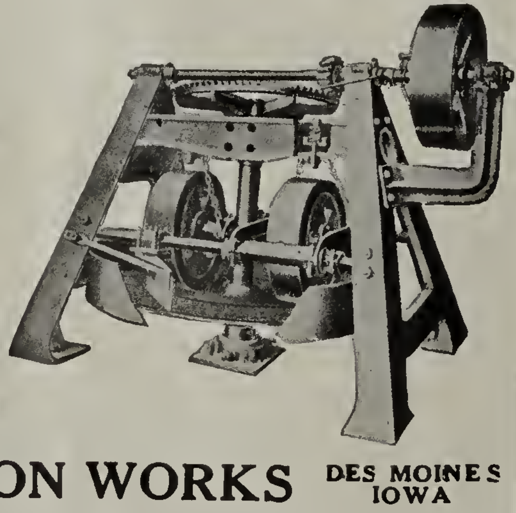
Send us your requirements and let us figure for you. *No* obligation whatever.

PETTIGREW FOUNDRY COMPANY
HARVEY, ILLINOIS

THE EAGLE DRY PAN

Write for Prices

EAGLE IRON WORKS DES MOINES IOWA



QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

How to Eliminate Cracks

957. *Alabama.—We are using the J. C. Steel & Sons auger machine. The twist of our clay makes the brick crack easily. Would a down-press machine be apt to overcome same?*

This difficulty is not an uncommon one among brick manufacturers. There are, however, several ways in which this type of lamination may be alleviated.

The trouble with your clay may be that it is too plastic, not sufficiently tempered and too finely ground. There may be a poor relationship between the auger machine and die distance or the blades in the auger machine may be set improperly or too much worn.

The difficulty you are experiencing has been met by different manufacturers in one or several of the following ways: Instead of running the clay column very stiff the clay is tempered more, preferably with hot water, making a softer column and thereby reducing lamination.

By the addition of sand or grog, or ground-up brick bats, the twist in the clay column may also be reduced. In the case of one manufacturer the addition of three per cent. sand was a tremendous aid in combating the trouble due to lamination. Similarly, coarse grinding of the clay has aided in the reduction of auger lamination.

The blades in the pugmill should be set so that some are in a neutral position and others propelling. Sometimes lamination may be overcome by moving the die further away from the auger machine. This may be done simply by adding a two inch wooden washer between the die and the barrel of the auger machine.

If you have never tried using a bridge or cross bar in back of your die, we suggest that you try this. The cross bars break up the rope or coil formation and are most effective when placed close to the auger. If the bars or bridge are placed too close to the die, the brick may crack or split in drying, the cracks appearing in the planes cut by the cross bars. With some clays it seems impossible to use a cross bar or core bridge between the die and the auger machine without causing the ware to split in drying.

We would suggest that you try some of the above formulae and let us know what results you have. We believe it will be better for you to do this than to purchase a new machine without attempting to use your present equipment with the few minor changes suggested above.

⁂

What Is Paper Clay?

956. *Pennsylvania.—Please describe paper clay, its character, chemical analysis etc.*

Can any other than white clay be used and if so what kind? Can a very fine pearl gray clay be used? It is non-plastic and 89 *per cent. will go thru* 300 *mesh sieve and* 98 *per cent. thru* 200 *mesh.*

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

Quoting from Ries' book, "Clays, Occurrence, Properties, and Uses," it states with regard to paper clays the following:

"These form a type of clay much used by paper manufacturers, and which are mixed in with the pulp fiber, so that the latter can enmesh a certain amount of the clay particles. The degree of plasticity of the clay seems to play an important role, since it is found that a given paper will often retain a much greater proportion of some clays than other, those of which the greatest quantity is retained being the most plastic. Sand is an undesirable constituent of paper clay for the reason that the sand-grains wear the wires of the screens thru which the materials have to pass. It can often be eliminated from the clay by washing. Whiteness of color is a third essential, and must be a primary character of the clay.

"The best grades of paper-clay are some imported washed kaolins, but large quantities of good paper-clay are also obtained from the Potomac formations of Georgia, and the Cretaceous and Tertiary ones of South Carolina. The Algonkian kaolins of Maryland, Delaware, and Connecticut, as well as the white residual Cambro-Silurian ones of southeastern Pennsylvania, have also been used for this purpose.

"Many of these clays are, however, also utilized for the manufacture of clay-products, such as white earthenware, wall-tile, etc."

The LETTER BOX

A Place Wherein Letters That Have General Interest Are Published and Commented Upon

How Would You Meet This Situation?

A certain face brick plant has been struggling for years on a problem that has baffled many an expert, and thus far remains unsolved. This concern has continued to make face brick in spite of the difficulties which they have stared in the face for years. They have been very hopeful of some day finding a solution to this heretofore insurmountable problem.

Recently, the following letter was received from the concern referred to, and we urge that clay workers study the problem and offer suggestions that may enable this concern to meet its problem more effectively:

"We are wondering if some of the clay workers could assist us in solving a problem in connection with our plant. As on a previous occasion we told you that we are mining our clay somewhat like coal, by carrying the roof on timbers.

"We have an overburden of about twenty-five feet so that stripping would be a very expensive proposition. We believe that we have about fifty-four feet of shale under the overburden that we could use for making dry press face brick.

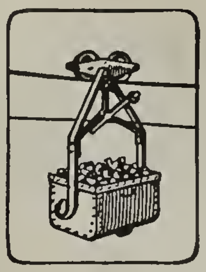
Leschen Wire Rope Tramways

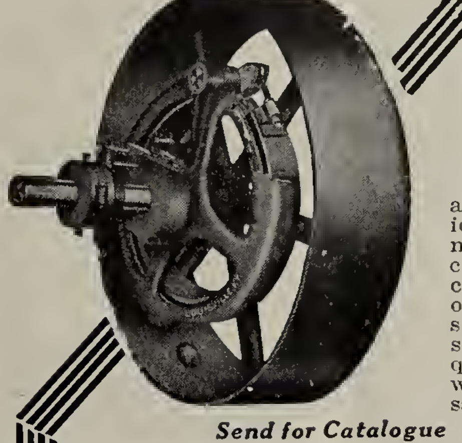
The efficiency of the Leschen Aerial Wire Rope Tramways for handling materials has been demonstrated by the actual operation of many installations.

We have had many years of practical experience in this line of work, and shall be glad to discuss your transportation problems with you.

Established 1857

A. LESCHEN & SONS ROPE COMPANY
New York Chicago ST. LOUIS Denver San Francisco





No Costly Shut-Downs

Caldwell Friction Clutches assure uninterrupted service year after year and remove the possibility of costly shut-downs. They are constructed primarily to obtain simplicity and strength and, for this reason, have been giving the quality of service everywhere that means a great saving in time and money.

Send for Catalogue
W. E. CALDWELL CO.
INCORPORATED
400 E. Brandeis St., Louisville, Ky.

Caldwell FRICTION CLUTCHES

ORIGINAL Boss SYSTEM **Boss Ten-Hour Dryer** ORIGINAL Boss SYSTEM

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

ORIGINAL Boss SYSTEM **J. C. Boss Engineering Co.** ORIGINAL Boss SYSTEM
Elkhart, Indiana

B STANDARDIZED MATERIAL-HANDLING MACHINES G

Barber-Greene-Co
Aurora-ILLinois.

Makers of the original B-G Standardized Belt Conveyors. B-G Self-Feeding Bucket Loader.

SPECIALTY BELT CONVEYOR

Conveys clay, sand, lime, gravel, coal, etc. Standard sizes. Details given in Bulletin 1-B. Why not write for it?

Allegheny and Trenton Aves.
PHILADELPHIA, PA.

Specialty Engineering Co.

BURN ANY COAL

Never mind the quality; put it up to

CANTON Rocking and Dumping Grates

to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

For Boiler and Kiln Grates

Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.

CANTON GRATE COMPANY
1706 Woodland Avenue,
Canton, Ohio

THWING PYROMETERS
THERMO-ELECTRIC
RESISTANCE RADIATION
INDICATING AND RECORDING OUTFITS FOR ALL INDUSTRIAL PURPOSES

THWING INSTRUMENT COMPANY
3347 Lancaster Avenue Philadelphia, Pa.

ONE MAN DIGGER
for the CLAY and TILE PLANT PIT

Designed especially to handle material for the average brick or tile plant.

Dependable, efficient, economical—oil engine operated

LOW IN PRICE—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.

Write for complete data

BAY CITY DREDGE WORKS
2619 Center Avenue :: Bay City, Michigan

"Our overburden will make a dry press face brick or at least No. 2 or common but here is the joker, small limestone pebbles are scattered thru the soil. If we could get rid of these we could use the overburden to make brick even if it was common, would save the expensive stripping, would be able to open up an open pit and get away with the high cost of mining.

"We believe that there are lots of plants over on your side of the line that have had to overcome limestone pebbles. Their expression of their experience would help us a lot, and we would appreciate any help they could give us.

"We are using a 9 foot dry pan and 4 mold dry press, down draft kilns, haul our shale up a slope at the back of the plant, to just back of the dry pan, we run it thru just as it comes from the mine, from there to the press, after passing over the screen (piano wire), then to the kilns. We prefer not to publish our name broadcast so will leave it to you to get us some help."

Brick and Clay Record urges its readers to read this letter carefully and offer suggestions that may prove helpful to our correspondent. We will be glad to forward all letters received concerning this subject to the concern that is struggling with the problem of obtaining its clay at a cost that is not prohibitive.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

Operation Results in Death

James D. Key, president Key-James Brick Co., Alton Park, Tenn., vice-president of Holston Brick Co., of Knoxville, Tenn., and president of the John D. Key Brick Co., Chattanooga, Tenn., died on Saturday, January 1, 1921, as a result of a virulent infection disclosed by an operation for the removal of his appendix.

Mr. Key was in apparently good health prior to his operation and death came entirely unexpected. He was a resident of Chattanooga all his life and was one of the most well known men in business and also in social activities. As a young man he worked under his father, Judge Summerfield A. Key, as deputy in the clerk and master's office in Chattanooga and continued in this capacity for eight years. When he left this position he joined with D. P. Montague, who was in control of the sewer pipe industry in Chattanooga.

Some time later he left the sewer pipe company and decided to strike out for himself. In the course of time he organized the Key-James Brick Co. and later the John D. Key Brick Co., being president of both interests at the time of his death. Beginning in a modest way he won success and established and maintained a business of importance and magnitude.

Mr. Key is survived by his mother and two sisters.

Donates Property to Charitable Cause

Rufus C. Burton, of the Burton-Townsend Co., Zanesville, Ohio, has recently earned for himself the title of "The Philanthropist of Zanesville." Mr. Burton became interested in a movement by the Rotary Club of that city to establish a "Home for Crippled Children." Mr. Burton donated approximately twenty acres of land with a large home already built on the property to this cause.

John A. Ross Dies

John A. Ross, president of the Frankfort Construction Co. and founder of the Frankfort (Ind.) Brick Works, died of dropsy at his home at Frankfort, Ind., on December 8. A son and two daughters survive him.

Death Takes Clay Man on New Year's Day

H. W. G. Nolting, sixty-nine years old, died New Year's Day at his home in Indianapolis, after a brief illness. Mr. Nolting had been a brick manufacturer in Indianapolis since 1869, when he became a naturalized American citizen, after emigrating from Schaumberg, Lippe, Germany, where he was born. Many of the brick in the older buildings of Indianapolis were made by Mr. Nolting, including those of the state capitol, the Pennsylvania Railroad shops and the Indiana women's prison. He is survived by his wife and seven children.

Brick Man Becomes Benevolent Santa Claus

Christmas time opens the hearts and pocketbooks of most of us and we feel just a little better for the sake of having made someone else happier. Karl B. Grahn, president of the Louisville (Ky.) Fire Brick Works is an exponent of this theory. Every year at Christmas time he plays Santa Claus to the orphans of Louisville and to families who need help. Mr. Grahn is always ready to help needy families whether the calendar shows any reason or not.

Stolen Birds Come Back

John Mansfield, manager of the Stiles & Hart Brick Co.'s plant at Weir Village, near Taunton, Mass., who is something of a pigeon fancier, had a number of valuable birds stolen from a coop near his office at the brick works recently. But the joke was on the thief for the birds were carriers and within a few days all were home again. The only loss sustained by Mr. Mansfield was the sealed bands which were about the legs of each of the birds and which were removed during their absence.

Visits Cincinnati

Allen R. Raff, of the Ironclay Brick Co., of Columbus, Ohio, has returned from a business trip to Cincinnati and cities and towns in the southwestern part of Ohio.

Make Business Visit to Canada

M. M. Morrow, salesmanager of the Hocking Valley Brick Co., of Columbus, Ohio, left soon after the first of the year on an extended business trip to Detroit, Mich., and Toronto, Canada to look over conditions.

New Clay Deposit Discovered in Arizona

According to a report, red brick from samples of clay received from Globe, Ariz., were recently made. The specimens were said to be of good quality in hardness and color.

New Company Will Make Tile

Reports received announce the incorporation of the Universal Patent Tile Co., Los Angeles, Cal., to manufacture and deal in tile. Capital stock is $50,000 with shares at a par value of $1 each.

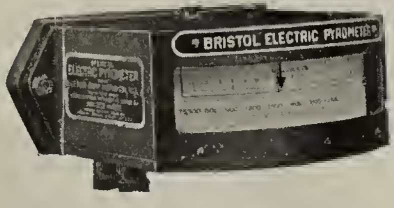
Home Building Company Organized

The California Builder of Homes, Inc., has been organized in Los Angeles. William Mann is secretary. The capital is

PYROMETERS FOR THE KILN

BRISTOL'S
TRADE MARK REG. U. S. PAT. OFFICE

is the pioneer industrial Pyrometer. They are made to stand up under the stress of daily use. That is the reason Bristol's are well adapted for the Brick Kiln requirements.



See Bulletin AE-291.

THE BRISTOL COMPANY, Waterbury, Conn.

Conco Cars

CONCO CARS are highly efficient and entirely dependable in the handling of clay products.

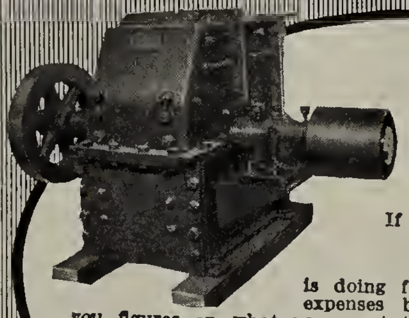
Every part of these cars is made by experienced mechanics and the cars are exactly fitted to your needs.

Whatever your requirements may be, CONCO CARS are capable of undergoing the situation.

If you need good cars it will pay you to write to us first of all.

Information free.

H. D. Conkey & Company
Mendota : Illinois



Cut your power costs

If you haven't heard what the K-B Pulverizer is doing for others in cutting down running expenses by using less power, let us send you figures on what you want to crush.

Built entirely of steel with manganese steel linings, the K-B will meet the most severe service requirements.

Write us for proof.

K-B Pulverizer Co., Inc.
92 Lafayette St., N. Y.

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

Why Use Coal For Fuel?

Write for catalogue.
Established 1905

It is scarce and expensive besides taking longer to burn your ware, and considerable

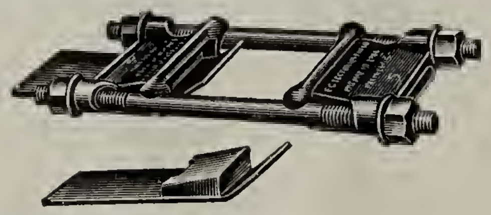
More Labor—

USE OIL

The Schurs Kiln Burners in your kilns mean—Quick Burns, Better Colors, complete control of fire and

Great Labor Saving

Schurs Oil Burner Company
Los Angeles, Calif. U. S. A.



TECKTONIUS

Malleable Iron Kiln Band and Plate Fasteners

The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

E. C. TECKTONIUS MFG. CO.
1202 Racine Street RACINE, WISCONSIN

Gilmer Solid Woven BELTING

Efficiency in meeting abnormal conditions of grit, dust, moisture, heat and gas stamps Gilmer Solid Woven Belting as ideal for the brick and clay field.

Wherever Gilmer has been placed in operation it had given unbounded satisfaction—usually with a surprising decrease in operating costs. Stretch and shrinkage practically disappear while wearing quality is remarkable.

L. H. GILMER CO.
PHILADELPHIA, PA.

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE

CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE

CATALOGS ON REQUEST

THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

$1,000,000 and construction of homes will be undertaken. It is understood that hollow tile and brick will be specialized in.

Hollow Tile Demand Exceeds Supply

Perhaps the most important building material that requires immediate attention is hollow tile. The demand today for tile is greater than the supply. In the interior of California especially hundreds of buildings are being constructed of hollow tile.

New California Brick Plant

The new brick plant at San Joaquin, Cal., will have a capacity of 40,000 brick a day and will be in running order about the 1st of February, according to announcement of Dr. Herman Janss, who is connected with the company and has been in San Francisco ordering the machinery for the plant.

Building Continues in Big Volume

Continuing Sacramento's hitherto unprecedented number of building operations, plans have just been announced for a new high school building and also a new grade school building there. The grade school will be constructed at Forty-sixth and R Streets and bids have been called for. Location of the projected high school building is as yet undecided.

More Building Than Ever in 1921

A half million dollar hotel, and residental construction on a large scale, is about to be started and building operations in and around Fresno, Cal., will be heavier than ever during 1921, is the opinion of prominent brick men who are now receiving orders for brick and tile for delivery in the early spring. The new plant at Merced, Cal., will have a stimulating effect on not only building operations but all trade in the San Joaquin Valley, declares Mr. Crowe, of the California Pottery Co.'s Fresno office. "Today we can only fill small orders for any of our materials," he said. "Large orders must wait. The result is delay and a consequent slowing up in all lines of building."

Building Continues Active on Pacific Coast

With plenty of building operations in progress thruout the state and the establishment of two new brick and tile plants in San Joaquin and Worth, Cal., a small town near Porterville, the Pacific Coast brick industry is facing a most prosperous period according to the consensus of opinion among those qualified to express an opinion.

While only a normal amount of new building is under construction now during the always dull winter season and brick plants have not piled up any brick for some time, they are now beginning to do so in anticipation of the biggest season's building operations ever known, in 1921. This condition will apply to the whole state of California. Los Angeles is already the second city in the United States in point of building operations. Sacramento has had a phenomenal year in this respect and San Francisco is preparing for an elaborate residence and office building construction next spring. The San Francisco brick dealers are anticipating a large business also in tiling and fire brick.

Plan to Establish Brick and Tile Plant

At a meeting of Porterville, Cal., business men and others interested in the project, plans were discussed for establishment of a brick and tile plant at Worth, five miles from Porterville.

According to expert information the deposit of shale on the property considered for the plant is of a high grade, and very good brick, tile and hollow brick can be made from the material available.

The property is now owned by Harry W. Loeb, of San Francisco. It is the hope of those interested to form a local company to start the plant. Lew Thorne, who is said to be one of the best posted men in the country on brick and tile products, pronounces the shale to be found there of high quality. Several hundred men will be employed eventually at the plant.

New Half-Million Dollar Company on Coast

The decision to establish a clay products manufacturing plant in the San Joaquin Valley was a business necessity, according to F. A. Costello, president of the California Pottery Co., which is about to break ground on their newly acquired fifty acre plot for their large clay products factory at Merced, Cal. This new plant, when finally completed, will be one of the largest of its kind on the Pacific Coast and will represent an approximate valuation of $500,000. The present plans provide for sixteen down-draft kilns. The first unit to be completed as soon as possible will consist of eight kilns. The kilns will be 30 feet in diameter, constructed of brick. The two main drying buildings will each be 300 by 300 feet. With the exception of the kilns all the buildings will be constructed of hollow tile. All will be ornate in design.

The fifty-acre site contains an inexhaustible bed of clay of good quality and is connected with the main line of the railroad with 1,900-foot spur track.

The fire clay which is required for vitrified and heavy burned products is obtained from a 200-acre deposit owned by the California Pottery Co. in Calaveras County. The freight rate on this clay shipped to Merced is as low as it is to Oakland, where the company is operating a plant which is one of the oldest in the state.

As a part of its program of expansion the California Pottery Co. will establish a branch in Honolulu, and H. J. Crowe, who has directed the affairs of the Fresno office for the past two years, will leave for Honolulu the first of the year to take charge of the new department. He will be succeeded at Fresno by Robert E. Lally, of San Francisco. Mr. Lally was formerly connected with the sales department of the Certainteed Products Corporation.

All the material necessary for the kilns is awaiting shipment and will be delivered as soon as the long spur track is finally completed. More than $50,000 worth of clay working machinery of the latest design will be installed within a month. The plant will be manufacturing materials for the market by the middle of April, according to present plans. The expansion of the plant to sixteen kilns will continue during the year, say officials of the concern.

Business Continues for Colorado Plant

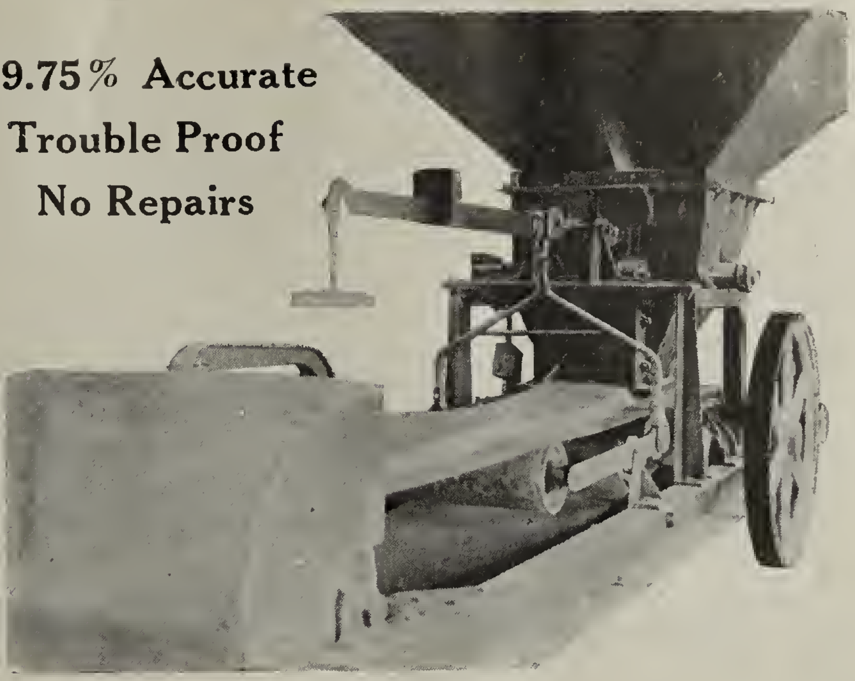
Montrose (Colo.) Brick & Tile Co. is busy making brick to fill an order for about a half million to be used in the erection of some school buildings, it is reported. Enough orders are on hand to keep the plant running until spring.

Fire Destroys Part of Florida Plant

Fire broke out at the plant of the Tucker Brick Co., Kissimmee, Fla., recently, a notice says. The mixing, pressing and finishing departments were destroyed, involving a loss estimated at $20,000.

New Georgia Concern to Make Brick

Standard Brick Corporation, Athens, Ga., recently organized with a capital of $100,000, will operate a local plant for the



99.75% Accurate
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No Repairs

ACCURACY

THE SCHAFFER POIDOMETER accurately weighs and proportions all raw materials. It is a constant guard to the quality of your ware, a saver of labor AND it is 99.75% accurate.

We employ a staff of engineers which is at your service and which will cost you nothing to consult in regards to the correct mixing of your clay.

WRITE TODAY

The Schaffer & Equip. Engineering Company
Peoples Bank Bldg. Pittsburgh, Pa.

GASOLINE HAULAGE MOTORS
Particularly Adapted to
CLAY AND COAL HAULS
or Any Light
INDUSTRIAL HAULAGE

Will do the work of a $5000 machine on a light haul at a fraction of the cost. Absolutely the most economical haulage on the market—bar none.

Power—Lots of it. We use new Ford Ton Truck Motors, transmissions, and worm drive differentials, and our special auxiliary transmission, giving a low speed up to 4 miles per hour and high speed up to 15 miles, these speeds being obtained while running forward or reverse.

Types—One piece solid cast iron frame, or for light hauls can furnish sectional oak frame.

Weight—Cast frame motors 3850 lbs. Wood frame 2750 lbs. with additional ballasting capacity of 1000 lbs. Gauge 24 in. to 56 in.

WRITE US TODAY FOR FULL INFORMATION

BROOKVILLE TRUCK & TRACTOR COMPANY
BROOKVILLE, PA.

Jenkins Standard Brass Swing Check Valve

Figure 352

For 150 pounds working pressure. Fitted with Jenkins renewable discs. The angle of the seat is such that it opens readily at low pressures and the shock of closing under high pressure in the most severe service is absorbed in the line piping. The disc lifts well out of the passage when wide open.

Know genuine Jenkins Valves by the name and Jenkins Diamond Mark—at supply houses everywhere.

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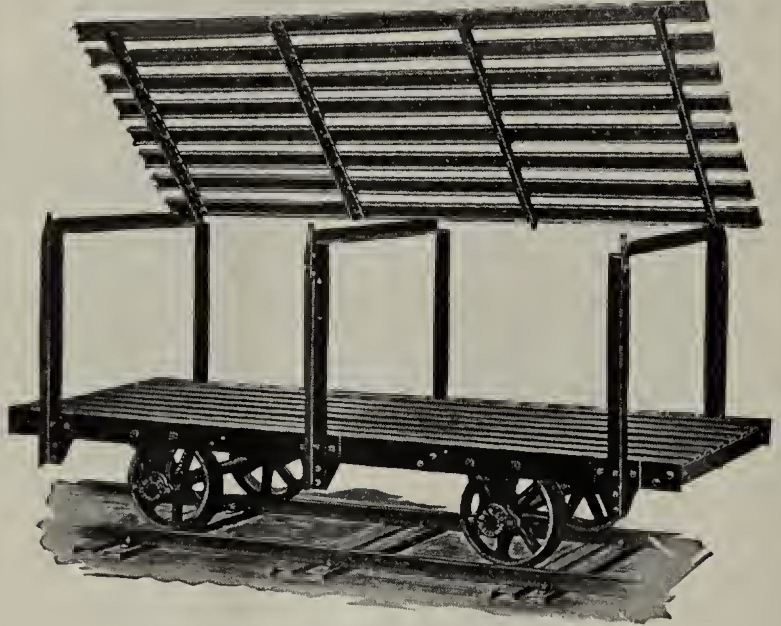
SINCE 1864



Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

R

FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

manufacture of building brick. The company is headed by E. H. Dorsey, Jr., and Robert C. Wilson.

Georgia Brickmakers Fight Rate Increase

At a meeting of the Georgia Brick Manufacturers' Association at Macon, Ga., in the office of its president, W. E. Dunwody, the question of fighting the proposed increase of twenty-five per cent. in brick transportation rates was discussed. The Georgia Railroad Commission refused to allow the rate advance, altho the Interstate Commerce Commission had previously passed a ruling permitting various states to increase rates. As explanation the Georgia commission stated that serious delay in building operations would probably result.

Georgia Brick Makers to Advertise

At the recent meeting of the Georgia Brick Manufacturers' Association at Macon, Ga., it was also decided to wage a collective campaign of advertising. W. E. Dunwody, president of the association, advised cooperative advertising for two purposes. To educate the public to the advantages of brick over all other building materials, and as an actual result, to increase the business of the members of the association. Advertisements will be run in leading papers of Georgia and elsewhere.

Give Bonus to Employes

According to reports received, the Kankakee Tile & Brick Co. has closed its plant for the season. There has been no further demand for the company's products and all available storage space has been filled. A Christmas bonus, based on length of service and amount of production, was given the employes.

Employes Offer to Help Rebuild Plant

Fire at the plant of the Monmouth (Ill.) Clay Manufacturing Co. almost completely destroyed the plant. The loss involved will, it is reported, amount to a half million dollars.

Employes of the company have shown a fine spirit by volunteering to donate a part of their services to the reconstruction of the plant, provided the company can see its way clear to rebuild it without any unnecessary delay. The plan is to give their services one day of every week until the amount of $20 has been paid.

Idaho Has Many Undeveloped Clay Deposits

The Idaho State Bureau of Mines has submitted a preliminary report on the clays of Idaho. "It is evident that Idaho has important clay resources which are only beginning to be developed," the report says. A more complete report on the commercial possibilities of these clays will be made by the bureau later on.

To Revive Brick Plant

Plans relative to the revival of the brick industry in Sandpoint, Idaho, were discussed by the chamber of commerce of that city recently, a report states. It was estimated that in order to again manufacture brick an initial investment of from $5,000 to $10,000 would be necessary. Former proprietors of the brick plant at one time operated in Sandpoint are interested in rehabilitating the plant.

To Suspend Operations

The Indiana Clay Co., of Indianapolis, has filed a preliminary certificate of dissolution.

Drain Tile Company to be Dissolved

The Hobbs Drain Tile Co., of Tipton, Ind., has filed legal papers with the secretary of state at Indianapolis showing preliminary steps toward the dissolution of the company.

Burglars Rob Brick Company

Three armed bandits paid a Christmas visit to the office of Edward H. Moorman's brick plant in Indianapolis, Ind., shortly before noon Christmas day, held up John Trout, watchman at the place and stole $182.50 out of the safe.

Insures Lives of Employes

Four hundred employes of the Clay Products Co. at Brazil, Ind., received life insurance policies of face values of $500 as Christmas presents. The face value of each policy will be increased $100 for each year that the holder stays in the employ of the concern.

Company Changes Name

Notice has been filed in Indianapolis by officials of the Universal Slag, Brick & Tile Co., of Indiana, with main offices in Gary, Ind., that the name of the incorporation has been changed to the Universal Brick & Tile Co. of Indiana. The company will begin work in the spring on the construction of a modern $200,000 plant.

New Concern Being Pushed

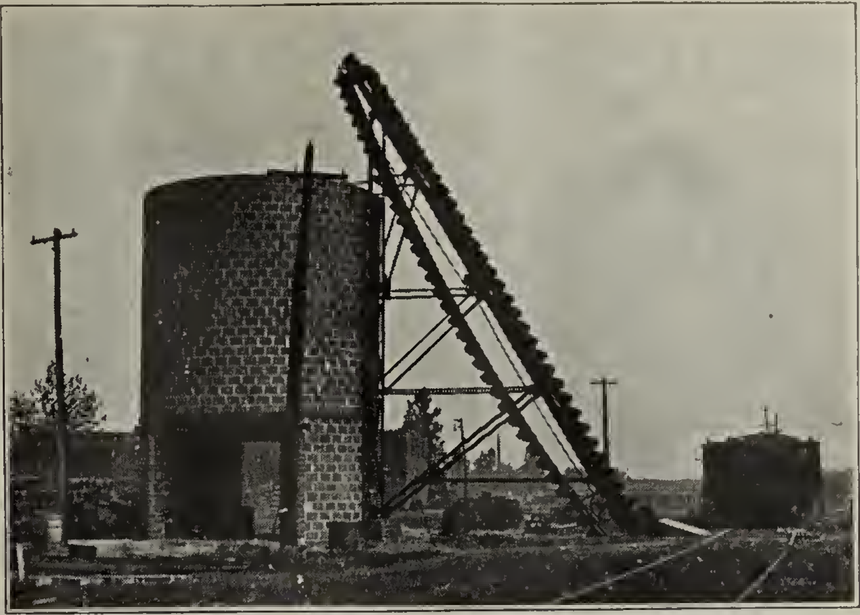
At a meeting of the Butler, Ind., Chamber of Commerce it was decided to sell the stock of the Butler Brick & Tile Co., which is being organized. The report further states that machinery and equipment will be acquired which will make the plant modern and up-to-date. Hollow building tile will also be made in addition to brick.

Must Report Natural Resources Used

One of the bills recently drafted by the Indiana department of conservation for presentation at the coming session of the legislature, would require all operators or producers of natural resources to submit a detailed report to the department before February 1, which would show the kind and amount of natural resources produced by the company during the last preceding calendar year. The bill states the department regards shale, clays, silica and other such materials as natural resources. Failure to comply with the provisions of the bill would entail a fine of from $50 to $500. The bill would provide that every manufacturer state, in addition to amounts used, where the material was obtained.

Contractors Prefer Collective Bargaining

In spite of the fact that the large majority of brick and clay executives favor the open shop principle as the only real American way of doing things and of operating a business, the mason contractors of Indiana have laid their cards on the table and have admitted that they prefer collective bargaining. It is doubtful if a corporal's guard of executives in the state could be found either among the brick and clay manufacturers or any other manufacturer who would prefer treating with organized labor as a whole because the state is ninety-five per cent. open shop now, but brick manufacturers want results in building more than an argument over the open shop idea and they appear to be of the opinion that from the contractor's point of view the closed shop may offer some benefits that are not seen in the actual production of brick.



55 Tons of Lump Coal Unloaded In 50 Minutes

That is what a Sunbury Automatic Car Unloader does in filling a coal bin for the Krick-Tyndall Co., Manufacturers of Tile and Blocks, Decatur, Ind.

Think what it means to unload a car of coal, this day of car shortages and labor scarcity, in approximately one hour. It's real ECONOMY as well as co-operation in solving the great railroad difficulties.

The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."
THE UNITED STATES ROOFING TILE CO.
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IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

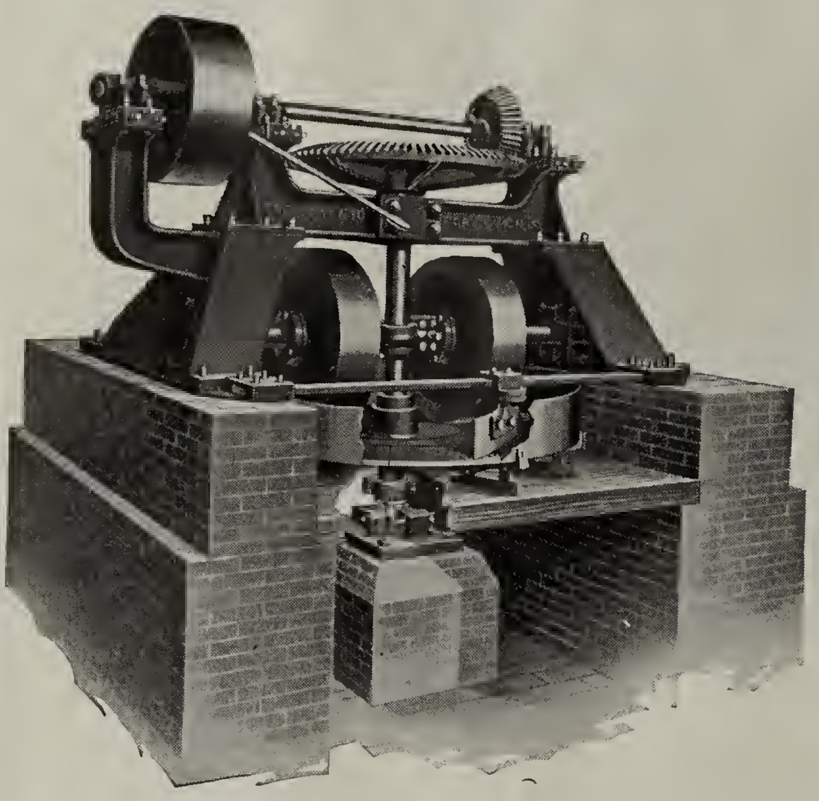
Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

Rollin Chemical Corp.
Equitable Building
120 Broadway, New York City

BRICK MUST HOLD UP ITS REPUTATION

MEANS GRINDING PANS



Type "B" Dry Pan, 9 ft. or 10 ft. sizes
The rugged construction of our Pans insure long and efficient service with the least expense for upkeep. A large list of satisfied customers is evidence that our Pans are
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We solicit your inquiries
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CALDWELL
ELEVATING, CONVEYING, POWER TRANSMITTING MACHINERY

Bucket Elevators, Buckets, Boots, Steel Elevator Casings, Belt Conveyors, Screw Conveyors, Cable Conveyors, Gears, Pulleys, Sprockets, Chain Bearings, Shafting, Screens.

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709 Main St.

The masons of the state contend that they are asked to provide bids for work to be done six months in the future and to be able to present the most intelligent bid it is necessary for them to have some idea as to what their labor is going to cost. Until the present year labor in the main stuck to its bargains but during the past year some slipping was noticed and the unions in the building trades fields displayed a tendency to overlook some of the contracts as mere "pieces of paper."

Adel Clay Products Co. to Expand

Due to the enlargement of the Adel (Ia.) Clay Products Co. a change in the street system is contemplated at Adel. The new arrangement will enable the company to situate its buildings more desirably.

Closes Plant Until Spring

Boone Brick & Tile Co., Marshalltown, Ia., is reported as being shut down for the winter. Decreased demand for clay products has been given as the reason. It is expected that operations will be resumed about March 1, 1921.

Must Help Employes Thru Hard Times

It is stated in a dispatch from Topeka, Kans., to the New York "Tribune," that the Kansas Industrial Relations Court has ruled that employers in essential industries must arrange to take care of skilled and faithful employes over periods of depression.

To Increase Hollow Tile Output

Madisonville (Ky.) Drain Tile Co. is to build a fireproof building and increase its capacity to sixty-five tons of hollow building tile daily. J. D. Bobbitt is manager of the concern.

Fire Loss Partially Covered by Insurance

Fire of unknown origin almost completely destroyed Alhorn & Waller's brick and tile plant at Morganfield, Ky., recently, it is said. The loss was estimated by Mr. Alhorn at about $6,000, much of which was covered by insurance.

Will Run on Part Time

Orders improved somewhat with the Louisville (Ky.) Fire Brick Works, and during the month the company will run four days a week. Both plants were down for a week during the holiday period, resuming on January 2.

Kentucky Clay Plants Quiet

Business with the clay working plants of the Louisville, Ky., section is very quiet at the present time, and many of the plants are down, taking advantage of the present dullness to make the usual annual repairs to machinery and equipment. A few houses are running on stock orders, or special lines which are in demand, but as a whole business is very quiet.

Sewer Pipe Plant Running at Capacity

A. P. McDonald, of the P. Bannon Pipe Co., Louisville, Ky., in discussing the situation said: "We are running full capacity in the sewer pipe department and about half capacity in the hollow tile plant. We are rather optimistic down here concerning future business, and feel that the present slump is only of a temporary nature, and that the next few weeks will show a material change in conditions."

Stops Work Temporarily to Make Repairs

The Louisville (Ky.) Pottery Co. is down for two weeks to make repairs, but expects to resume operations shortly. The clay mines at Huntingburg, Ind., are operating steadily, and clay is being shipped and stocked at Louisville for future needs. The company reports that the outlook is good in the flower pot division, as prospects are for good buying in view of light buying last season. The stone ware end of the business is a bit hazy just now, but it is believed that it will come around well a little later.

Lumber Prices Expected to Rise

A Louisville brick man referring to the lumber market said: "While the present price of lumber is very low, especially hardwoods, which in some instances are sixty-six and two-thirds per cent. lower than during the spring of last year, it is not believed that any such prices will be maintained for long, as mills can not pay present wages and survive. A few concerns which have been overloaded, and upon which banks have called for money, have been forced to unload, and a few others have had cold feet, and sold for a song. If present lumber prices were to continue the differential would be too great, but they are not likely to continue. Brick has never been able to compete with lumber on cost, but on endurance. However, if the differential between lumber and brick becomes too great, it is going to hurt brick."

Changes in R. B. Tyler Co.

A change has been made in the building department of the R. B. Tyler Co., Louisville, Ky., which also had a considerable effect on the Louisville Builders' Supply Co. John F. Livingston, A. H. Fairleigh, and Thomas C. Small, all former employes of the Louisville Builders' Supply Co., Small having more recently been with the Ohio River Sand Co., have entered the employ of the R. B. Tyler Co., under an arrangement whereby they take active charge of the building supply and brick departments, and will take over ownership of these departments some months later, when some existing contracts expire. R. B. Tyler expected to devote his time to stone crushing and road work, oiling, etc., which are his specialties, and will also operate his Banner Coal Co.

Mr. Tyler has never paid any attention to the building supply end of the business personally. Mr. Livingston will be secretary of the R. B. Tyler Co., until the business of the supply department is turned over to the newcomers. Mr. Fairleigh will be sales manager, and Mr. Small will look after the large supply warehouse on Levering Street. Harry C. Warren, who has been in charge of the department, becomes a city salesman. The company has also made a contract for the output of the new Robert C. Kraft lime kiln at Charleston, Ind.

Fear Coal Costs Will Rise Again

It is expected that prices of clay products in the Louisville, Ky., district will be further reduced before long in connection with reductions in lumber, which has been especially weak in the hardwood division during the past two weeks. So far there has been only the November reduction, whereas the lime and cement people have been holding firmly, expecting that prices will be reduced, but waiting until fuel prices are steadier. Whereas present fuel prices are very low, and some mines are closing down, being unable to operate profitably with short business, it is not at all certain that present low coal prices will be more than temporary, and the clay workers do not like the idea of reducing prices and then have costs

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"OUR ERIE has more than paid for itself in 10 months and is as good as new. We are averaging 360 cu. yards a day in tough blue shale." *J. M. Purcell, Pres., Duffney Brick Co., Mechanicville, N. Y.* (They now own 2 ERIES.)

The ERIE gives steady, reliable service digging stiff clay or hard shale. A careful comparison of steam shovels will convince you that the ERIE is the shovel to buy.

Write for our Bulletin "B," showing just what the ERIE can do.

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Builders of ERIE Revolving Shovels and Locomotive Cranes.

Branch Offices in NEW YORK, BOSTON, CHICAGO.

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Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?

The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

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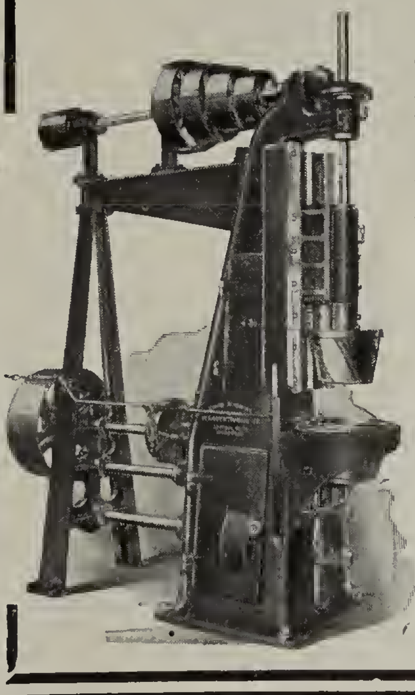

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AMERICAN
DRESSLER
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PENNY WISE AND POUND FOOLISH

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to pay more to

BURN BAD PRODUCT

than to

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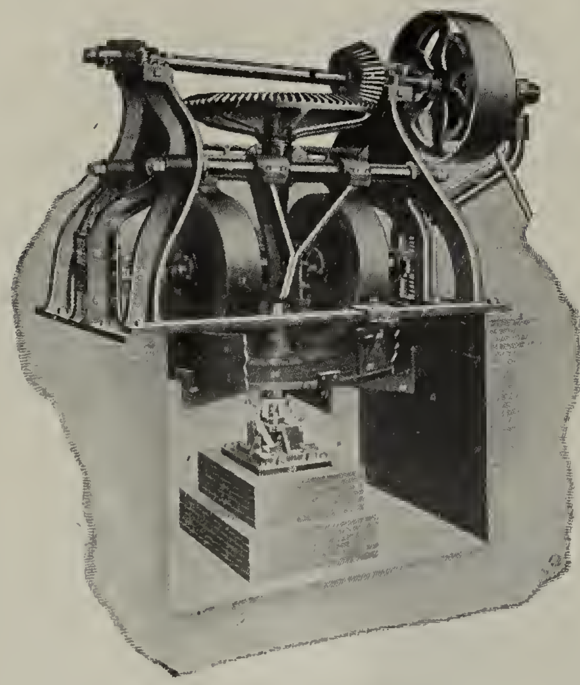

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STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.
All of the highest class designing and construction are manufactured by

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mount again, it being explained that labor is about as strong as it ever was. Coal and labor are the two things which make up brick costs, and with costs still uncertain, the brick manufacturers are slow in reducing prices.

James T. Howington, of the Coral Ridge Clay Products Co., in discussing conditions, said: "We are being offered good grades of coal at under $3 a ton, that we were paying around $8 a ton for just a few weeks ago. However, it is not at all certain that the present low prices of coal will be maintained. With increased industrial demand, if industry gets back on a sane basis shortly, or severe weather, which would demand larger supplies of coal for general use, indications are that coal prices would come back strong."

Plans To Expand and Make Improvements

The Queen City Brick & Tile Co., Cumberland, Md., has plans under way for a number of extensions and improvements in its plant for general increase in production. Considerable machinery and equipment has recently been acquired for installation, and the total work is estimated to cost about $150,000. The present steam-power operation will be replaced with electric service.

Brick Plant Damaged

The plant of the Universal Brick Co., Holden, Mass., was damaged by fire on December 28. The loss has not been estimated. The company carried about $18,000 in insurance on the property.

New Clay Plant in Michigan

Incorporation of the Sparta (Mich.) Clay Manufacturing Co. for $40,000, is reported. Thomas E. Graham, Fred H. Klenk, Enoch Armock and others are mentioned as the incorporators.

Moberly Paving Brick Co. Active

In order to finish the paving project at West Leavensworth, Neb., the county has authorized the signing of a special contract with the Moberly (Mo.) Paving Brick Co., it is said. The contract calls for delivery of paving brick at $1.59 per square yard, for which the city will pay in cash.

Expect Good Business for Next Five Years

The clay industry in St. Louis is enjoying a very favorable business at present, and is looking forward to an excellent demand thruout the year. It is expected that business in the brick and clay market will be excellent for the next five years at least, and possibly much longer. The large number of brick and clay companies that have closed their plants during the past year or two greatly increased the business of those remaining, who are unable to take care of the demand. Even should building conditions become normal again, it is not expected that materials will be available for some time, due to this curtailed production.

To Lay 2,200 Feet of Track

Great Falls (Mont.) Brick & Tile Co. has closed its plant for winter repairs it is said, which will include overhauling of machinery and equipment and the laying of 2,200 feet of spur track.

Reduce Price of Face Brick

Robert C. Mitchell, of the Reliance Brick Co., Omaha, Neb., announced a reduction in the price of face brick of from $3 to $5, according to a report. Mr. Mitchell is quoted as saying: "We believe there is no longer any reason for maintaining war prices on building material. This reduction is made to keep pace with reduced cost of lumber, cement and other building material."

Brick Machinery Company Expands

The Crossley Machine Co., Trenton, N. J., has arranged for an increase in capital from $125,000 to $250,000 for expansion.

New Company Will Make Roofing Tile

The D. & P. Roofing Tile Co., Guttenberg, N. J., has been formed with a capital of $125,000 to manufacture roofing tile of various kinds. The company is headed by Adolph G. Drapp, G. Drapp and A. Poellot, West New York, N. J.

Brick Company Dissolves

The Lynch Brick Co., with yard at Haverstraw, N. Y., has filed notice of dissolution under state laws.

To Manufacture Roofing Tile

The Munson Roofing Tile Co., Brooklyn, N. Y., has been organized with a capital of $25,000 to manufacture roofing and other tile products. The company is headed by M. C. Beach, O. A. Samuel and G. Brown, 413 Twentieth Street.

Earnings of New York Workers Reduced

New York State Industrial Commission recently issued a statement on average earnings of New York State factory workers. The statement says in part: "Part time work in many plants as a result of depression, and the seasonal inactivity in some industries are responsible for a slight decrease in earnings of factory workers in New York State from October to November, 1920. The November average weekly earning of 545,000 employes, covered by 1,648 manufacturers' reports to the Bureau of Statistics of the Industrial Commission, was $28.70. This is 23 cents less than the average earning reported in October."

Builds Tallest Radial Brick Chimney

The Alphons Custodis Chimney Construction Co., New York City, has just completed the construction of the tallest stack in New England, at the plant of the Goodall Worsted Co., Sanford, Me. The smoke stack, of brick construction, is 302 ft. 6 in. in height; it measures 23 ft. 10½ in. at the base and is 12 ft. in diameter at the top. It is laid in fifteen sections, with three tapers, and costs about $30,000. It was built in record time by the company, a crew of 16 men and foreman working for 29 days on the job. Heretofore the tallest stack in this district has been at the Arlington Mills, Lawrence, Mass., being 300 ft. in height.

New York Brick Market Quiet

While heavy shipments of brick have been reaching New York from up-river points during the past few weeks, arrivals from now on are expected to be materially curtailed as the Hudson River will soon be closed in the northern brick districts. Above Newburgh tows have been having considerable trouble and many have been called off in attempts to make the trip thru the ice. As this means the closing of navigation in the big Haverstraw district, producers will have to keep their stocks for another sixty to ninety days until shipments can be made without difficulty.

The New York market has been quiet during the holiday

Perforated Steel Screens
Of Every Description

For Screening Clay, Shale, Sand, Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity, Durability and Satisfaction

The Harrington & King Perforating Co.
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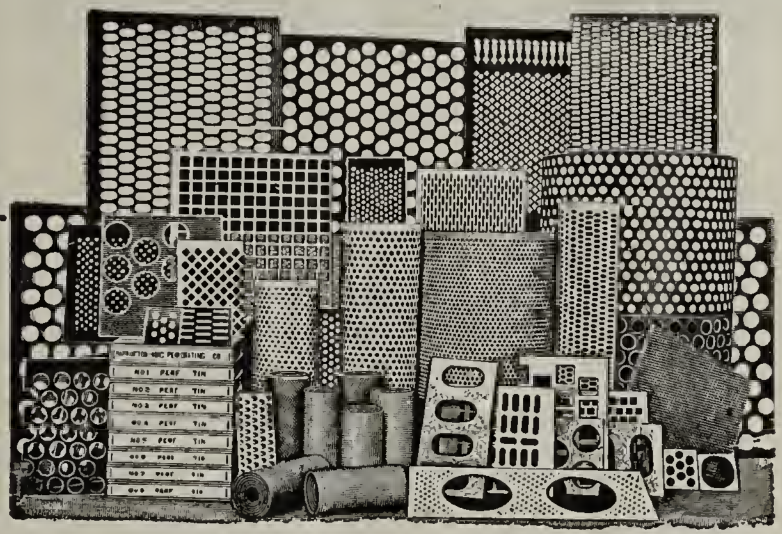

You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

The Roessler & Hasslacher Chemical Company
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Kansas City, Mo. San Francisco, Calif. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
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Easton Industrial Railway Cars measure up to the job. They combine strength and sturdy construction with weight—factors which give Easton Cars the stamina to endure continuous hard service and abuse in brick and clay mining work, without failure of any part. Easton Cars give long, economical service because they're built to fit the job.

Whatever your needs, we make a car that will fully meet your requirements—either in standard design or special to fit your specifications. Not only cars, but all the rest of an industrial railway's equipment—track, switches, turntables, and accessories—are included in Easton facilities.

Easton Engineering Service with thirty years' experience in designing and building industrial railway equipment, is at your disposal without fee or obligations. Ask for recommendations.

EASTON CAR & CONS'T'N CO

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Works: Easton, Pa.
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Pittsburgh Philadelphia

3086-E

season, bringing about accumulated stocks alongside dock. Over 50 barge loads are now available for immediate distribution and the bulk of call is coming from the Manhattan district. The price remains unchanged, being from $16.00 to $18.00 a thousand to dealers in wholesale lots, and $22.00 to $22.70 delivered on the job. At the present time the supply is far greater than the call, and while dealers are hopeful, this condition is expected to continue for the next two months.

New Ohio Company to Operate Soon

The Canton (Ohio) Brick and Fireproofing Co., which recently was incorporated, purchased the plant of the Home Brick Co. at Canton, and will begin operations about March 1.

State Brick Plant Increases Capacity

An increase in production has been reported by the state brick plant at Junction City, Ohio. The capacity is now 100,000 per day. The brick are used in the construction of state roads and buildings.

Hope to Conserve Company

Clay Products Manufacturing Co., Monroeville, Ohio, has been placed in the hands of creditors recently, according to a report. The company was fully in accord with the action taken by the creditors. Representatives of the creditors are J. B. Wood, E. G. Martin, and R. O. Perrott, of the Hadfield-Penfield Co., Bucyrus, Ohio, who are the principal creditors. Stockholders and creditors will work together to conserve as much as possible the resources of the company.

Closes Plant for Indefinite Time

The plant of the Claycraft Brick Co., Columbus, Ohio located at Groveport, southeast of Columbus has been closed down indefinitely. The other plant of the company, located at Shawnee, Ohio, is still in operation and will probably continue to produce for some time.

W. T. Matthews, salesmanager, left soon after the first of the year on a business trip to Chicago and Mendota, Ill.

Optimistic in Regard to Future

Charles Harrison, of the Gaddis-Harrison Brick Co., Columbus, Ohio, is very optimistic of the future of the brick and clay products business as is shown by a recent interview. Among other things he said "I believe that building will be active in the spring as every-one feels that way and if all believe in a thing it will come true. Optimism is generally met with in our travels and as a result we are getting more optimistic every day. Just how early the building activity will start is a matter of conjecture. If the present winter continues open as it has been I believe that things will start out early in spring and otherwise if the winter is cold and late. People are ready to build and also anxious to get started and if they are convinced that prices are right there will be nothing to hold them back. We look for a good demand for all brick and clay products and have made preparations accordingly."

Sewer Pipe Makers Busy

Labor troubles are becoming more quiet in the Urichsville, Ohio, district and sewer pipe owners are preparing to clear their yards of accumulated stock. Many yards will require three more months to catch up with shipments. Shipments have not kept pace with orders, altho many plants are receiving a full assignment of their car needs.

Closing Plants To Make Repairs

Hocking Valley Brick Co., Columbus, Ohio, is operating three of its plants, while the fourth is closed down for necessary repairs. The plant at Logan, Ohio, is busy on pavers while the former Ohio Fireproofing plant and a second unit, both at Nelsonville, Ohio, are making hollow tile. The third Nelsonville unit is closed down but will be put into operation some time in January when it is planned to close down another plant for repairs. These plants have been operated rather steadily during the war period and as a result major repairs became necessary.

New Unit Ready in February

The Franklin Brick & Tile Co., of Columbus, Ohio, which is just completing the erection and equipping of a new unit at Taylor's Station, just east of Columbus, announces that the new plant will be ready for operation by February 1 if not sooner. This plant has a capacity of 100 tons daily and will be used in manufacturing hollow building tile exclusively. One kiln has been completed and the output can be doubled with the erection of an additional kiln. The face brick plant of the company, located at the same place is almost closed down, similar to many other clay products concerns in Ohio.

Plan to Erect New Building

The Ironclay Brick Co., of Columbus, Ohio, contemplates extensive improvements at its mortar and supply plant. In addition to installing more conveyors and unloading machinery, an entire new building to house the mortar works will be erected. The present building will then be used as a warehouse. This company handles brick from its own plants and as agents at the mortar plant and thus the additional warehouse will give a much larger capacity in which to store brick. The work contemplated will be started soon.

To Aid in Building of Homes

Plans for aiding in the building of homes were discussed by the executive committee of the Ohio Building Association League which met in Columbus recently. The executive committee is composed of twenty-three members from various parts of Ohio and many ideas to aid in home building were advanced. Steps were taken to finance more home building jobs and building and loan associations will be called upon to furnish money for that purpose. John J. Stoddart of Columbus is president and James A. Devine, of Columbus, secretary of the League.

Makes Changes in Office Administration

Several important changes with the turn of the year are announced at the headquarters of the Denison Interlocking Tile Corporation, Cleveland, Ohio. J. J. Cantwell, sales manager at the Cleveland offices, has become associated with A. J. Bohn in the management of the Atlanta branch of the company. A. C. Wiles, formerly with the Crowell-Lundoff-Little Co. and the Barrett Manufacturing Co., and considered an authority on building construction and materials, becomes sales manager of the Cleveland branch.

New Officers Columbus Builders' Exchange

R. L. Wirtz, a general contractor has been elected president of the Columbus Builders' and Traders' Exchange. The annual election was held Monday, January 3, and was a contest between the "Mike" and the "Ike" tickets which had been placed in nomination. Voting lasted from 11 A. M. until

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7:30 when the polls were closed and the votes counted. Robert M. Miller was selected vice president; and A. E. Munkel, C. L. Dolle, Jr., and E. T. Wittemeyer, members of the board of directors. Reports showed the exchange to be in excellent condition. A dinner was served in the evening and many "stunts" were executed.

Road Building Going On in Ohio

Bids were opened December 31 by the Ohio Highway Commission for the improvement of roads in a score of counties of the state and bidding for the work was especially active. This is quite different from conditions of the past year when many contractors were afraid to bid on the various jobs. Included in the list of contracts bid on recently were brick paving as follows: a stretch in Clarke County; another in Crawford County; a stretch of 4.88 miles in Muskingum County; another job of 1.45 miles in Muskingum County and still another in the same County of 3.15 miles; a job of 2.57 miles in Seneca County. Two jobs of 1.415 and 2.49 miles respectively in Stark County and a stretch of 1.13 miles in Trumbull County.

Thinks Building Will Revive in 1921

John Cooper, manager of the Columbus branch of the Thomas Moulding Co., speaking of prospects said, "While conditions now in the brick business are more quiet than in any previous experience for nine years, still prospects are fairly good for 1921. Buyers are now apparently playing a waiting game in the hope that prices will go lower and as a result I do not look for an early start in building operations. But I believe that when things get under way we will see a fairly good building year. There is a great need for dwellings and apartments and consequently a large number will undoubtedly be erected during the present year. I believe that things will change materially when the spring arrives and people will start many building projects."

To Fight Advance in Freight Rates

The suit brought by Attorney General John G. Price, of Ohio against 41 steam and electric railroads in Ohio to prevent them from obtaining the 40 per cent. advance in freight rates, as authorized by the Interstate Commerce Commission, on interstate shipments has been transferred from the county court to the U. S. Court of Appeals so it will be in line for early review by the federal supreme court and thus a final adjudication arrived at. It has developed that the Interstate Commerce Commission has ordered the railroad commissions of Arkansas and Minnesota to permit of the 40 per cent. advance on intrastate shipments. But it is contended in the suit filed by the Ohio Attorney General that such action is contrary to the federal constitution and the advanced freight rates will be fought to the last ditch.

Ohio Drain Tile Ass'n Meets in January

The annual meeting of the Ohio Drain Tile Association is scheduled to be held at the Chittenden Hotel, Columbus, Ohio, January 27. The meeting is expected to be largely attended because of the growing importance of drain tile and also because of the various conditions which surround the manufacture of drain tile. All of the manufacturers of Ohio, even if not members of the association as well as manufacturers in adjoining states have been invited to attend. C. H. Hilty of Ada, Ohio, is president and J. C. Poling, also of Ada, is secretary. Two of the speakers will be Murray Lincoln, secretary of the Ohio Farm Bureau, and Gales Starr Ross, salesmanager of the Dunham Service Corporation of Columbus, who will speak on general business conditions. Entertainment of the visitors will be looked after by W. P. West of the Franklin Tile & Brick Co., Columbus, and Harry Landrum, salesmanager of the Columbus Clay Co. Officers will be elected and one of the features will be a luncheon.

Paving Brick Outlook for 1921 Bright

Officials and employes of the Ohio Paving Brick Manufacturers' Association are of the opinion that the coming year will be much better in paving block business than the year 1920. Expectations at the start of 1920 were high, but conditions over which manufacturers had no control, intervened to reduce the demand and consequently curtailed the output of the plants. Principal in the list of impediments was the car shortage which prevented the shipment of pavers and many jobs which would have gone thru otherwise were abandoned. Then again the high cost of labor and materials and also the uncertainty as to labor had the result of reducing paving projects. Plenty of money is available for work in the Buckeye State during 1921 and this is expected to bring about much better conditions. Highway work is especially prominent as about $30,000,000 is available for highway construction as provided by the state and federal government. In addition a large number of county and township jobs will go forward. It is believed that a larger percentage of brick construction as compared to the total mileage will be provided in 1921 than ever before.

Shut Down for a Short Time

Queen's Run Fire Brick Co. and Lock Haven Fire Brick Co., of Lock Haven, Pa., have ceased operation for a week or so, a report states.

Brick Company Files Bankruptcy Petition

The Allegheny Brick Co., Ltd., Pittsburgh, Pa., manufacturer of building brick, has filed a voluntary petition in bankruptcy with liabilities stated as $19,680.78 and assets of $41,000.

Fire Partially Destroys Plant

Fire broke out recently in the addition to the Penn Tile Works, Aspers, Pa., causing damage estimated at from $20,000 to $25,000, according to advices received. The loss was partially covered by insurance.

Will Add Story to Building

The Beaver Falls (Pa.) Art Tile Co., Thirteenth Street and Eleventh Avenue, is having plans drawn for the construction of a one-story top addition to its present two-story building, 20x50 ft., to be used for storage, sales and other service.

Changes in Harbison-Walker Co.

H. W. Croft has been elected chairman of the board of directors of the Harbison-Walker Refractories Co., Pittsburgh, Pa. He had formerly been president, and John E. Lewis has been appointed to fill this vacancy. N. McQuillen has been elected vice-president.

New Refractories Manufacturing Plant

Work has been completed on the plant of the Van Dyke Silica Brick Co., Lewiston, Pa. The company will make ganister brick for use in open hearth steel furnaces and coke ovens. Operations will probably be begun sometime in January, 1921. The plant is to have a capacity of 120,000 brick per day and will employ approximately 400 men.

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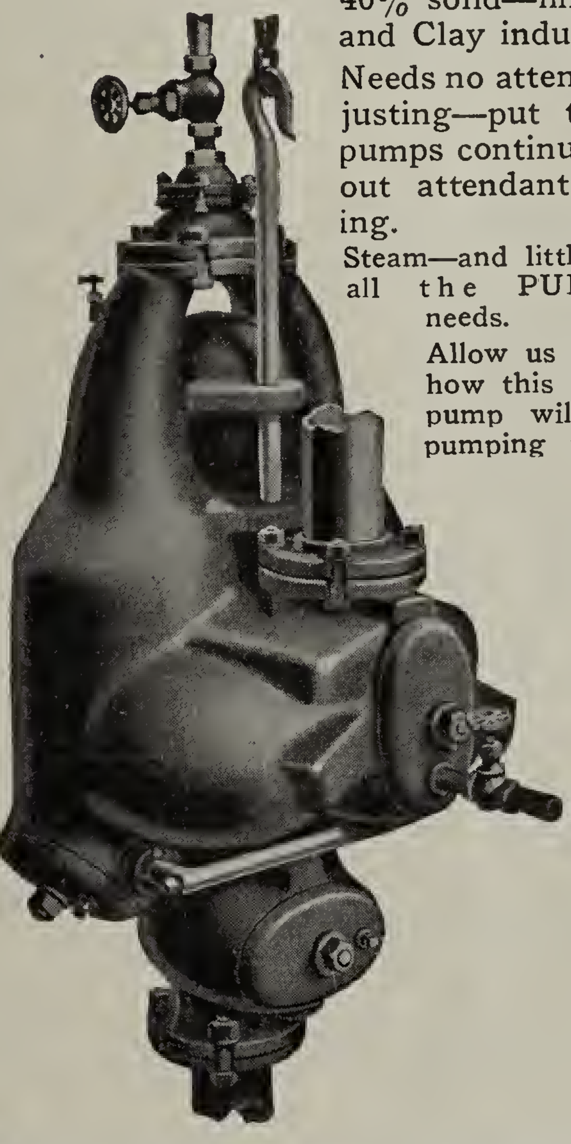

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New Company Buys Old Brick Plant

The Newcomerstown (Pa.) Clay & Coal Co., recently organized with a capital of $150,000, has acquired an existing brick plant on the outskirts of the city to form its inital works. Extensive repairs and improvements will be made in the plant, including kilns and buildings. The remodeling will include a change from steam-power to electric-power operation. It is proposed to have the plant ready for service early in March.

Begins Construction of New Plant

Clay Products Co. of America, Philadelphia, Pa., has broken ground for the main manufacturing building at its new brick plant at New Hope, Pa., opposite Lambertville, N. J. The structure will be of brick and steel, with concrete foundations about 800 ft. in length. Other buildings to be erected later will occupy a tract totaling 100x1,000 ft. It is proposed to build the different structures with brick manufactured at the new yard, and wood will be used for temporary construction until production is available. An electric plant for general works service will be constructed by the company. The company has installed a railroad track from the New Hope station to the site. The new plant is expected to be ready for partial operation early in the spring. It is estimated to cost about $900,000 with machinery and operating equipment.

May Build New Brick Plant in Texas

Investigations are being conducted at San Angelo, Texas, to ascertain the advisability of erecting a brick plant there. A number of years ago a plant was operated under the name of the San Angelo Brick Manufacturing Co., but has since been dismantled.

Fire Damages Kiln Shed

Fire broke out recently in one of the kiln sheds of the Suburban Brick Works, Wheeling, W. Va. The fire was extinguished, however, and the loss will be small.

To Start Up in Spring

Nitro Brick & Tile Co., Charleston, W. Va., has purchased a large tract of land and will begin operations early in spring. The company will manufacture brick, fire brick and tile. Present plans call for the construction of four kilns at once and more are to be added later. It is estimated that capacity at the beginning will be about 30,000 brick per day.

Wisconsin Bricklayers Want No Increase

At the annual convention of the Wisconsin Brick Masons' Association demands for increased wages were looked upon with disfavor, it is announced. Brick masons were unanimous in their vote against an increase in wages.

Wisconsin Brick Company Very Active

Contrary to the usual tales of lack of business which are received from manufacturers at this time, the Ringle Brick Co., Wausau, Wis., states that the demand for brick has been good and that they are nearly sold out. High freight rates seem to be the greatest drawback to a general resumption of building activity.

Urges Repeal of Excess Profits Tax

Otto H. Kahn, before the House Ways and Means Committee December 21, advocated the repeal of the present excess profits tax and enactment of a sales tax, a revision upward of tariff and the reduction of higher rates on income surtaxes.

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The EDITOR'S CORNER

PLANS ARE HATCHING FOR TECHNICAL IMPROVEMENTS

ANNOUNCEMENT has been made of the plans of the American Ceramic Society to form a "heavy" clay products division within its organization at the forthcoming meeting of the society in Columbus. This plan fits in nicely with the suggestion that has been made concerning the various national clay associations pooling their interests in technical investigations.

An incubator develops the eggs placed in it and brings them to a state of maturity. However, the incubator does not lay the eggs. It must obtain them from some other source. Similarly, a technical investigation committee appointed by the various national clay associations must have some ideas to work on. It cannot be expected that a small group of men appointed on this committee could furnish all the schemes worthy of development. The function of this committee would be similar to that of an incubator—it would develop the ideas received from some other source.

What better place could these ideas be formulated in than in a brick and tile section of the American Ceramic Society? In this group would meet the technical men of clay plants, who would discuss plant operation problems.

We urge all clay products manufacturers to consider and support the following two ideas. First, technical investigation under direction of various national clay associations. Second, urge all technical men in the plant to join the "heavy" clay products division of the American Ceramic Society which will be organized in Columbus next month.

* * *

PAY WAGES UP TO A STANDARD

THE READJUSTMENT of prices, methods and conditions, brings with it the necessity of readjusting wages. Manufacturers in all lines of commodities are confronted with the problem of finding ways of reducing costs. Usually the first place to look to is labor.

Labor wage reductions are going on in hundreds of lines of endeavor. Those industries in which labor is resisting wage reductions, are those in which labor is highly organized. It is the concerns employing such help which are handicapped considerably during the readjustment period. Competing firms not confronted with dickering with the unions have the jump on them in trade.

There undoubtedly are some good features about the theory of Charles Piez, president of the Link Belt Co., in which he explained in effect, that the present policy of the American Federation of Labor of adjusting labor on the basis of cost of living, is sheer fallacy. It is necessary for employers to get back to where wages are based on production rather than cost of living.

When clay plants are opened again this spring, it undoubtedly will be a good plan to follow this idea of basing wages on production. However, we think it would be a big mistake for clay plant operators to adopt a wage reduction which would reflect any bitterness which might be in their hearts and minds towards labor, because of its exacting and independent attitude at a time when the industry was badly in need of maximum production.

Economical and successful plant operation means a good steady man on a steady job. In the old days when brick plant labor was the poorest paid of any industry, and it was largely composed of "floaters," the apparent economy of such cheap labor was in reality false economy. Plant managers will do well in making wage reductions to keep the plane high enough so that a certain standard of workmanship can be demanded.

* * *

TO SURVIVE—MODERNIZE

THERE ARE HUNDREDS of small plant operators in the clay industry. A decade ago there were thousands more. The introduction of cost saving machinery and scientific management has been a chief influence in the immense reduction in number of small clay plants.

Those plants that have quit the business are those operators who would not recognize the value of labor saving machinery in a small plant. Usually, it was the man who considered labor saving equipment as being adaptable to only large factories, and outside of the realm of the small plant, who later dismantled his plant because he could not keep up with competition.

While not all machinery designed within the past few years, that has aimed to reduce costs and labor requirements, is applicable to the small plant, there is much apparatus that can be used to good advantage by the small operator and will save him from the trend of the times,—the rapid reduction of the number of small clay plants as is witnessed by the fact that there are now only about four thousand plants against ten thousand a decade ago.

* * *

GIVE DUE RECOGNITION TO BRICKLAYER SITUATION

NO MATTER how good you make your product, and even tho the public accepts the statements that your brick are durable, beautiful, will make a comfortable home, and that the price is right—you will not be able to sell your product if it cannot be laid in the wall economically. The public looks further than to the brick when building a structure—it looks to the finished brick wall. This fact at once ties up the industry's interest with the bricklayer and with the other materials that, along with brick, make a brick wall.

There are two factors that have been obstacles in the path of a greater use of brick from a bricklaying standpoint. One is the shortage of bricklayers and the other the charges of inefficiency against bricklayers.

The great shortage of bricklayers is well illustrated by describing the conditions in Boston. In 1914, Boston bricklayer unions had approximately 1,470 men registered. When the armistice was signed that number had been reduced to 900, and at the present time there are but 600 bricklayers registered in Boston unions!

The carpenters' union on the other hand, during this period, increased its membership from 4,000 to 7,000 members. It is reported that there has been a steady drift of men away from the bricklaying trade and the shortage is a serious one. No matter how many brick are sold in Boston there will be no more laid than what 600 bricklayers can lay.

The brick industry then should be very much interested in anything that has been done to increase the number of bricklayers. It is interesting in this regard to know that the Mason Contractors' Association passed a resolution at a recent convention advocating that each local association take the necessary steps to have the art of bricklaying taught in public, technical or vocational schools.

There has been a lot of unjust propaganda disseminated thru various mediums concerning the inefficiency of the bricklayer. Even many brick and tile manufacturers have openly discredited the bricklayer, seemingly not realizing that they were also discrediting their own product as well.

Investigation has revealed that most of these stories are unfounded and the mason contractors who are in a position to know, have gone on record saying that the bricklayers of the United States and Canada, as a whole, except in isolated cases, are now producing an amount of work that compares favorably with that of pre-war years and that they are cooperating with the mason contractors to the end that the public may be given more producion which makes for lower building costs and more homes.

Every brick manufacturer should do his utmost to uphold the bricklayer production and to aid in the establishment of vocational instruction in bricklaying.

* * *

STABILITY AND PRICES

THRIFT is again taking hold of the American public. This is good news to those interested in the building industry since there is usually associated with thrift the desire for home owning. Building and loan associations usually thrive in times when people practice frugality. This should signify that these organizations which aid the smaller builder, should have sufficient funds to promote a great deal of building.

Moreover, there is another ray of hope for the manufacturer of building materials. Reports from all over the country indicate a great volume of work on the boards in the architects' offices. It has been stated that the structures already drawn up, if built, would furnish enough work to keep the building industry busy for the coming season.

These reports are optimistic and show that fundamentally the conditions in the industry are right for a prosperous building season, but for some reason or other, building does not go ahead. The seed is planted but never grows. The reason is the lack of confidence in building costs. Price stability must come before building will go forward.

The course for the manufacturer of brick and other clay products to pursue, has already been pointed out in these columns. If the manufacturer can see no prospect of reducing his prices in the next several months, he should speak the courage of his convictions and let it be widely known that his present prices are stable. Or, if the manufacturer feels that manufacturing costs will be lower when he starts up again, he should attempt to determine his costs and choose a price now for his product from which there will be but minor deviations.

* * *

SELECTING A DEALER

INTEREST of a magnitude heretofore never manifested among clay products producers, has been shown in the matter of dealer distribution. There is no doubt as to the value of this new policy in general, among manufacturers. The idea of merchandising clay ware thru the means of the building supply dealer is a good one, and many manufacturers will testify to the importance of the supply dealer in the distribution of their product to the public.

The growing popularity of the dealer distribution policy is fast winning its way among clay manufacturers who heretofore have never used this means of marketing their product. In the effort to obtain progressive dealers, some manufacturers may not be careful enough in the choice of their representatives. A great deal of thought should be given in the matter of making a choice of building supply dealers to handle clay products. In fact, as much or even more consideration should be given to this matter than is given to the selection of a salesman, because the dealer is largely left to his own initiative whereas the salesman is usually guided by the manufacturer.

There is some question concerning the advisability of one supply dealer representing as many as twelve different manufacturers. Where a large number of manufacturers are represented by a single dealer it is usually the case that he does not serve any of the manufacturers satisfactorily.

Our suggestion to the clay products producer is by all means to use the building supply dealer in the distribution of his product, but investigate him first and try to make connections with a dealer who is not already representing a large number of other clay manufacturers.

* * *

THE RETAILER WHO IS AFRAID TO TAKE HIS MEDICINE

WHILE we are on the subject of dealer representation, there is another important phase of this matter that merits discussion. It is the matter of the dealer or retailer who has a stock of goods bought at high prices and who is still holding out in the hope that he will not have to come down on the price of these goods.

While a reduction in prices at any time, simply because of public demand. should not influence the good judgment of the retailer who knows his costs and is seeking only a fair profit, we do feel that the present situation is one which is entirely different from any that has preceded it in recent years. We are in the midst of readjustment on a large scale. Every right thinking business man realizes that the time has come to "squeeze" the water out of the situation.

A number of industries have already gone thru this painful but promising process. It has hurt, but the fact that a number of manufacturers have been willing to "see it thru," fills their future horizon with hope.

The concentration of complaint has switched from the manufacturer to the retailer. The last mentioned factor in the distribution of goods from the manufacturer to consumer seems to be a little slow in "taking his medicine." Manufacturers doing business with dealers who are in this class should take advantage of every opportunity to warn such that they are simply holding back the onward march of prosperity to a sane and sound basis.

A representative of a number of manufacturers doing business in the building field has made some pertinent remarks with regard to this situation. Commenting on the slogan brought out by the Chicago Tribune. "1921 Will Reward Fighters," he says:

"I think the first fight to be won is with the building supply dealer and the retailer who attempts to continue high prices in order to avoid losses on goods bought at high prices. He forgets the profit he made on a rising market when he bought goods at low prices and sold them at high prices. Low manufacturers' prices have been reflected in low retail prices widely enough for the public to buy.

A. C. S. *to* ORGANIZE HEAVY CLAY PRODUCTS SECTION

Men in Industry Give Reasons for Urgent Need of a Brick and Tile Division of the American Ceramic Society—Association Anticipates Record Meeting in Columbus

EACH SUCCEEDING YEAR shows increased activity in the breadth and scope of work undertaken by the American Ceramic Society. Since its reorganization a few years ago remarkable strides in the direction of progress have been accomplished and with the report of each annual meeting we have had to tell of an enormous gain made over the preceding year.

Hotel Deshler, Columbus, Ohio, Where A. C. S. Will Meet

The 1921 meeting of the American Ceramic Society is to be held on February 21-24, at the Hotel Deshler, Columbus, Ohio. According to all predictions the 1921 meeting will even outstrip the progress made in preceding conventions. Both from the standpoint of attendance and activity the meeting promises to be a record-breaker.

Recently there have been organized in the ceramic society, subsidiary divisions, wherein the activities are confined to the specific industry in which they specialize. There are, for instance, the following sections: terra cotta, glass, enamel, whiteware, ceramic decorative process, floor and wall tile and refractories. This year it is planned to organize a brick and tile section for which a want has been felt for a long time.

The brick and tile industry has progressed slowly, largely because it has no clearing house for the ideas which were conceived by men here and there thruout the industry but which never had a fair opportunity for full development. There is a need for branching out into two directions in the industry. First, the clay industry thru its national associations should pool its interests and appoint a committee on technical investigation to carry out research on problems that are constantly confronting the industry. This committee should hire experts and should be supported with liberal funds from the treasuries of the national associations. However, this alone is not sufficient.

HEAVY CLAY PRODUCTS DIVISION NECESSARY

A brick and tile section of the American Ceramic Society is strongly needed. There are hundreds of technical men employed on clay plants who have no opportunity for having criticized by persons of equal training and experience, those little kinks that come to one from time to time in the nature of cost and labor-saving ideas on the clay plant.

There are a large number of men who have graduated from the ceramic courses of the various universities and men who have graduated from courses in civil engineering, mechanical engineering and electrical engineering, who have gone into the brick and tile industry, for whom there is no opportunity to intermingle and exchange ideas. A special division in the American Ceramic Society would fit in nicely for these men. Here would be formulated and laid, the ideas which later would be developed and "hatched" by the special technical investigation committee of the national clay associations.

This plan which the American Ceramic Society has under way is a step in the right direction. It should have the stamp of approval of every brick and tile manufacturer. Every producer of brick, drain tile, hollow tile, sewer pipe, paving brick, and so forth, should send his technical man to Columbus to partake in the formation of the brick and tile section of the American Ceramic Society.

BRICK AND TILE SECTION WOULD BE BENEFICIAL

That the organization of a brick and tile section of the American Ceramic Society is a popular move and is striking a responsive chord among technical men engaged in the brick and tile industry is well illustrated by the following letters which are but a few of the opinions which run general thruout the clay industry:

BRICK AND TILE SECTION WOULD BE OF UTMOST VALUE

C. Forrest Tefft, Fiske & Co., Inc., Watsontown, Pa.—"The writer is very much interested in your suggestion in reference to the need of a brick and tile division of the American Ceramic Society. There is no question but that an active division of this sort would be of the utmost value to the members who would take interest in it.

"I have been a member of the American Ceramic Society for several years, and have attended many of its meetings, even tho the papers and discussions given rarely touched on problems that were of vital interest to a brick manufacturer—but even so, it has never occurred to me to doubt the value of attending these meetings.

"It is doubtful if there is a glazed ware or glass manufacturer in this country who does not watch the activities of the American Ceramic Society with great interest, and surely there is no reason why a division of brick and tile manufacturers could not be built up, that would serve its members just as fully as the present existing divisions serve their members. It is true that there are associations to which all of the brick and tile manufacturers should extend their support, as those associations have and will continue to serve their members well, but the work which they are doing does not go into the scientific problems that come up in the manufacture of their members' products as a division of the American Ceramic Society could and would do.

SCIENCE HAS NOT BEEN APPLIED

"It is quite probable that the brick and tile manufacturers of this country will soon have a department of research working in connection with the Government Research activities, but even so, there is no reason why this research department would not be benefited quite materially by working in connection with the work that a brick and tile division of the American Ceramic Society would do.

"This letter does not permit of listing some of the work which could be done by research. I believe, however, that few men will doubt the statement that there has been less real scientific work done on brick and tile manufacture than any other large national manufacturing business, and because of the correctness of this statement, there surely must be room for plenty of this work."

TECHNICAL DEVELOPMENT IN INDUSTRY IS URGENT

Jas. R. Thomas, manager, The Standard Brick Co., Crawfordsville, Ind.—"I was in Chicago several days ago and fully intended to call and discuss with you a matter, to which I have given considerable thought since I heard Mr. Bleininger's talk on the subject at Columbus last year. I have discussed it with a number of manufacturers and all agree that it is of the greatest importance and that some one should get behind it at once and push it to a successful conclusion as soon as possible. You can imagine my surprise when on my return to the plant this morning I found your letter awaiting me on the very subject I intended to discuss with you, namely, creating and operating a technical research organization in the clay industry that would devote its entire time to solving the many problems that confront the clay manufacturers every day and in every department of their factories.

FINE POINTS MUST BE BROUGHT OUT

"I do not wish to criticise the clay industry, because I do not feel that seven years of experience in the game entitles me to this presumption, but I do feel that sometimes an outsider, who has had more or less training along a different line, can see things from a different perspective than if he had always been in the clay game. From what I have seen of the clay industry, I am convinced that it is in a similar state of development to the electrical industry some forty years ago, when Mr. Edison built a machine which would make electricity, but he knew nothing of the scientific designing, such as the proper kind of iron to use to reduce the iron losses to a minimum, or the proper cross section of the poles, or the correct size of wire, or the proper weight of iron and copper to be used in the machine to produce the highest efficiency in its operation.

"Succeeding machines were patterned after the first successful machine, not from a scientific design, but by the 'cut and try' method. Those machines probably weighed two or three times as much as a machine built today of the same capacity. It was Steinmetz who reduced the art of making electrical machinery to a science by the discovery that the laws of electricity all follow the laws of mathematics, and today an electrical machine can be figured out mathematically and even its efficiency determined before a hand has been turned toward the manufacture of the machine.

"Today, if you make a tour of the country visiting the various clay plants for the purpose of determining the best type of kiln or the best method of burning, you will probably return home so confused with the different conflicting statements you have heard that you are left almost where you were before you started.

INCREASE EFFICIENCY FIRST REQUISITE

"I believe that what the clay manufacturers want first is the development of certain definite scientific principles applied to the equipment which they now have installed to increase the efficiency in manufacturing and burning their various products. Then their attention should be turned to the development of labor-saving devices to eliminate as much labor as possible in the manufacture of clay products and the development of the most efficient and practical type of kiln for burning same. Is there any other manufactured product that has as large a percentage of its cost in its labor?

"In my judgment, the reason there has been no greater development in labor-saving devices in the clay industry is due to the fact that it is composed of a large number of concerns, no one of which can or will spend the thousands of dollars necessary to develop this equipment. It might cost as much to develop one machine as the machine itself would save them in a lifetime, in which case they would be foolish to undertake it; but if all of the clay plants manufacturing a similar class of material join together and pay a small assessment per ton of production sold, into a fund to be used for this purpose and add this assessment to their selling price, the results can be obtained without cost to the manufacturer. The best way of increasing our profits is to reduce our costs, and the results along this line, which may be obtained thru the research organization, can hardly be estimated. We should co-ordinate our efforts, hire experts to do our experimenting, and then make use of the information obtained.

FINANCIAL SUPPORT SHOULD BE EASILY OBTAINED

"If we had the money which is wasted annually by the various individual plants in experiments, which duplicate those made elsewhere, or which are started and never finished, or which are useless on account of improper or insufficient records, or lack of technical knowledge, we would be able to finance a research laboratory unsurpassed in the country. If we can get the manufacturers to realize these truths, we believe there will be no trouble in getting their financial support and cooperation.

"I am not sure whether this research organization should be handled thru the American Ceramic Society, or thru a combination of the various brick and tile associations. Altho I have been a member of the American Ceramic Society for a number of years, I am not familiar with their research division, as it has never to my knowledge had much to do with brick. I believe this subject should be given the greatest thought and then started thru which ever channels would give the quickest and most satisfactory results."

SECTION WOULD AID NEEDED INVESTIGATION

L. B. Rainey, superintendent, Fallston (Pa.) Fire Clay Co.—"I think the idea of having a 'heavy clay' products branch of the American Ceramic Society is a very good one. Such a department, if it can be made to function properly would prove of great value in the investigation of problems, common to all of us.

"I have noted, in times gone by, how in the investigation of some new idea or principle, the effort and expense has been duplicated dozens of times by different concerns.

SCIENTISTS' WORK SHOULD BE DISTRIBUTED

"If there could be any method evolved, whereby the work of a group of scientists, on problems, such as we all have, could be 'cleared' or distributed in such a way as to avoid this, it would save us lots of money as well as greatly increase the available information. As a result the entire industry would gradually get into a higher plane, which we all agree, is greatly to be desired."

ENDORSES PLAN OF AMERICAN CERAMIC SOCIETY

H. H. Bartells, Newcastle, Pa.—"Altho I have known for some time that there has been considerable agitation for the formation of such a section I do not know what the scope of the work of this proposed section is intended to be. Whether it is intended that manufacturers interested in brick and tile will band together to boost the individual investigation and presentation of papers at the society meetings or whether they intend to combine finances and resources under capable management for a series of exhaustive investigations along the lines vital to their interest such as burning, drying, material handling methods, labor-saving devices and so forth.

"A movement is already on foot which bids fair to do some really valuable work. Several of the national associations are behind it I understand. Each association proposes to appropriate a considerable sum of money to be used in factory investigations, the results of which can be easily and profitably applied to factory practice.

"I heartily endorse such a plan and see no reason why it could not be done as a section of the American Ceramic Society. In fact that would seem the logical plan, judging from my limited information of the plans. The question of the name under which the work is done seems to me to be immaterial, but the matter of getting the work done by somebody seems all-important.

RESEARCH DIVISION WOULD MEAN GREATER PROFIT

"Now as for arguments why manufacturers should join such a movement I would say that the same reasons that cause them to combine for the purpose of advertising should be advanced to combine them for research. These reasons are self preservation and profit. Their united efforts can produce results where their individual efforts are impotent. The fact that they are going on record thru advertising with statements that they have certain products of certain quality for sale and are quoting prices on these products, should make them all the more anxious to be positive about the *uniform* quality of those products and their ability to deliver in accordance with their public declarations.

"I think all clay manufacturers will agree that there is very much room for improvement for manufacturing methods and quality of clay products in our line at least. I think they will also agree that manufacturing in many other lines is done much more efficiently and exactly. For example, the manufacturer of tools, watches, automobiles, threshing machines, breakfast food, steel and any number of other staples can predict very closely the time of delivery, amount and quality of goods his factory can turn out to fill a given order. Not so the brick and tile man. He knows he can do it *if* the weather does not stop pit operations or blow on his kilns, and if he does not have a break down and if his kilns come out right with respect to color and hardness and if a thousand other *ifs* don't happen.

DIFFICULT TO OBTAIN UNIFORM RESULTS

"In the meantime he worries and wonders if he will be lucky. He has done all he can to make things come the way he wants them but still he is not even reasonably sure. This condition in a large measure is due to the fact that his *exact knowledge* of his processes is insufficient to make him master of his processes. This is especially true of his most important process, the burning. He burns a kiln of brick getting excellent results. He wishes to duplicate that kiln and handles the next one in what he thinks is identically the same manner, but the result is anything but identical. The reason being that he did not really know what he did to the first kiln. Until clayworking approaches an exact science much more closely than at present, it will be guess work and guess work harbors grief. The reason the steel maker is sure of himself is because he knows what should be happening at every point in his process and he has means of checking up to see that it does happen. He is applying science or its synonym—knowledge—to his work.

"Therefore it would appear that one immense field of improvement open to the clay worker is the acquisition and application of science or knowledge to his problems. He can not afford to do it alone but he can pool interests with others in like difficulty and do it with them in a large way. It seems to me the clay worker's goal should be uniformity of processes and results. These are dependent on standardized methods and methods in turn can not be standardized until he *knows*."

GREATLY INTERESTED IN FORMATION OF SECTION

R. B. Keplinger, assistant general manager, The Metropolitan Paving Brick Co., Canton, Ohio.—"This letter will acknowledge your favor of January 12 with reference to the formation of a brick and tile section of the American Ceramic Society. The writer concurs with you fully in the desirability of such an effort and tho in the past always a silent and rather an inactive member—is very willing to cooperate in any possible way toward this end.

A. C. S. NOT CONCERNED WITH BRICK AND TILE

"It is only necessary to glance thru the last few volumes of the transactions to note what a relatively small and unimportant part the brick and tile industry has played in this society with reference to any sort of technical investigation or research work of any kind—the discussions and papers having to do almost entirely with pottery or refractories. This it would seem is primarily the fault of the brick and tile manufacturers themselves for their rather complete indifference and lack of interest, or at least participating interest in the activities of this society. Unless these men can become actively interested, the work and results of the work of the American Ceramic Society is of no particular or immediate benefit to the industry to which they are engaged. It appears that the only way to accomplish this, is to form and maintain a live, well attended and representative brick and tile section conducted along lines peculiarly adapted to the requirements of these industries.

"The problems and difficulties incident to the manufacture of any kind of heavy clay ware are undoubtedly subject to the same kind of searching analysis and technical investigation which has been so helpful and of such tremendous aid in the development of the other ceramic industries.

"I hope to attend the coming annual meeting of the American Ceramic Society at Columbus and shall be greatly interested in anything that can be done to form this section and also very willing to do anything possible to further this project."

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Money Circulation in the U. S.

The Treasury Department has issued a circulation statement dated January 1, 1921. On that date the general stock of money in the United States amounted to $8,372,959,004; held in the treasury as assets of the government was $494,296,257; held by the Federal Reserve banks and Federal Reserve agents against issues of Federal Reserve notes, $1,538,226,029; money in circulation, $6,340,446,718; circulation per capita, $59.12.

Prices Fall Six Per Cent. in December

According to Dun's index, commodity prices at wholesale fell 6.2 per cent. during December, compared with a November drop of 6.8 per cent., thus bringing the general price level on January 1, 1921 down to only 64.2 per cent. above the 1913 average.

* * *

Charge Price Fixing of Lumber in Chicago

A report of the Federal Trade Commission to congress recently, charges price fixing and a division of business in Chicago thru an association of lumber dealers, a statement says. At the same time an announcement from the department of justice was made public stating that an investigation of the whole building situation in the United States is under way.

The general inquiry of the department is based chiefly on the revelations regarding the alleged building trust in New York. The commission in its report says there are forty-five to fifty members of the Chicago association and they are supplied with average costs of doing business and daily reports showing sales.

It is charged that each concern is assigned a quota of business, and that a percentage of the money from "overshipment" goes to the treasurer for reimbursement of those who "undership."

* * *

Hard Work Will Bring Us Back to Normal

Governor Harding, in an address on "Working Back to Normal," before the New York State Bankers' Association, January 17, said in part: "It should be clearly understood that we can not get back to normal by a mere stroke of good fortune. . . . A return to normal, which, under the most favorable circumstances will be a slow and gradual process, involves work—hard work of every description, and calls for the best efforts of those who manage the comercial and industrial enterprises of the country, the intelligent guidance of those who direct the use of capital and credit, the productive energies of those whose contribution is manual labor, and full cooperation all along the line."

* * *

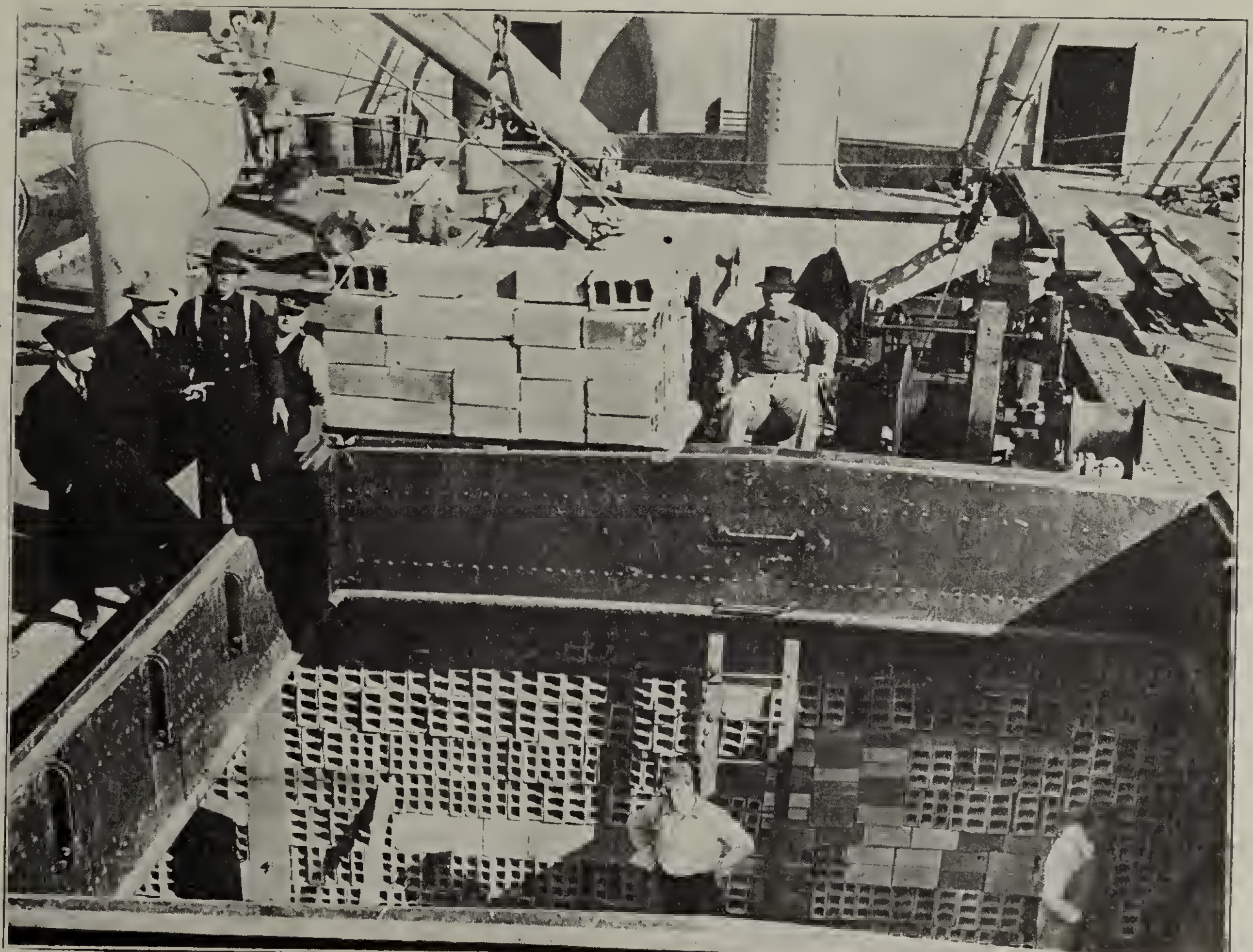
HOLLOW TILE—BOUND *for* HONOLULU

CLAY IS FOUND in such abundance in almost every country on the face of the globe that anyone not acquainted with export possibilities would naturally be inclined to believe that every country could take care of home demand thru home industries. In all cases this is not true however, and California clay products manufacturers are alive to the possibilities of developing a trade in foreign markets.

Up until now the Hawaiian Islands offer the greatest field for the manufacturer who is anxious to export some of his products. The Los Angeles Pressed Brick Co., one of the largest clay products manufacturers on the Pacific Coast, is making hollow tile at its Alberhill and Santa Monica plants for shipment to Honolulu, Hawaii. In the accompanying photograph is shown a freighter loaded with hollow tile and bound for Honolulu.

Demand for hollow tile for residences, schools, churches, hotels, garages, industrial requirements and government purposes in Hawaii has been unprecedented. Demand for this product showed an increase during 1920 of 300 per cent. over 1916. The Los Angeles Pressed Brick Co. will increase its capacity to 6,000 tons of hollow tile per month, which it is expected, will be equal to the demand.

A Ship Loaded with Hollow Tile at Wilmington, Cal., Bound for Honolulu, Hawaii, Where it Will be Used for Government Buildings. The Cargo is a Product of the Los Angeles (Calif.) Pressed Brick Co. In the Center of the Group of Men on the Left is Major Herbert J. Simon. To His Right is Frank Brown. Both These Men Are of the Los Angeles Pressed Brick Co. Due to the Unprecedented Demand for Hollow Tile for Residences, Schools, Churches, Hotels, Garages, Industrial Requirements, and Government Contracts, the Firm Has Been Manufacturing Hollow Tile at Both the Alberhill and Santa Monica Plants, Shipments Being Made from Each for Honolulu.



Difference in Bids Overshadows Brick Cost

How often have you heard contractors state that the cost of brick was high, and intimate that brick is one of the largest factors in construction cost? Moreover, how often have you read newspaper items decrying the high cost of brick? What a small item the brick cost really amounts to in a brick structure, is illustrated in an advertisement published in a recent edition of a Chicago newspaper.

An example is given showing a number of bids submitted for a field house to be located in one of the small parks in Chicago. There were fifteen bids and the difference between the lowest and the second lowest bidder was greater than the cost of the total amount of common brick required for the building.

The figure of the lowest bidder was $76,600 and the next lowest bidder asked $82,860. The difference in the estimates of these two bidders was $6,160. The total amount of common brick required for the building was 200,000. Figuring 200,000 common brick at $16.00 per thousand, which is the price of common brick in Chicago, the cost of common brick for the entire building would have amounted to $3,200 which is just a little bit more than one-half of the *difference* between the two lowest bidders to say nothing of the difference between the lowest and highest bidder. These figures were well brought out in the copy of the advertisement, a reproduction of which is shown herewith.

THE Lincoln Park Commissioners recently opened bids for a Field House in Gunther Park. Fifteen proposals were submitted. Some of these were as follows:

Low bidder - - -	**$ 76,700.00**
Second bidder - -	**82,860.00**
Third bidder - - -	**83,163.00**
Fourth bidder - -	**86,700.00**
Fifteenth bidder - -	**103,160.00**

The total amount of common brick required for the building is 200,000 at $16=$3,200.00.

Note that the total value of the brick is very much less than the difference between the two low bidders.

MORAL:* *Build with brick. It is not only the best, but also the cheapest building material.

CHICAGO BRICK EXCHANGE

219 Chamber of Commerce Bldg.

This Convincing Advertisement Appeared in a Chicago Daily Newspaper

⁂

Refute Stories of Less Bricklayer Production

At the annual convention of the Mason Contractors' Association of the U. S. and Canada at Detroit, Mich., in December, 1920, the much mooted question of decreased efficiency of the bricklayer was discussed. Thirty-five centers were represented at the meeting and reports on the efficiency of the bricklayer, as actually observed by the men who employ him, were made. As a result of these reports the Association decided to go on record to the effect that "the journeyman bricklayers of the United States and Canada, as a whole, except in isolated cases, are now producing an amount of work that compares favorably with that of pre-war years, and that they are cooperating with the mason contractors to the end that the public may be given more production, which makes for lower building costs and more homes."

Each local, it was resolved, should take the necessary steps to have the art of bricklaying taught in public, technical or vocational schools.

It was further resolved that "inasmuch as the brick and tile manufacturers are now engaged in an intensive and expensive publicity campaign, the Mason Contractors' Executive Board be instructed to confer with the officers of the Associations to the end that they secure certain financial assistance in teaching bricklaying, in order to be able to supply the demand for the laying up of their product."

It was brought out at the meeting that thruout the country today the relative proportion of construction is eighty-nine per cent. frame and eleven per cent. brick, hollow tile, and concrete. Much of the public's unwillingness to use brick is due to the stories of decreased bricklayer production and it is intimated that the lumber industry is largely back of these rumors.

⁂

Will Not Tolerate Cut in Wages

Business agents of thirty-two unions affiliated with the Chicago Building Trades Council met January 21, in Chicago, Ill. It was decided to stick to the present wage scale of $1.25 per hour and to insist that this rate continue for the next three years.

A statement prepared by officials of the Council says in part: "A recent statement issued at Washington presents figures on the cost of living in eight different cities in the country during December, 1920. Chicago figures show that the cost of living is 93.3 per cent. higher than it was in 1914. The increases in building trades wages are but from sixty-six to seventy per cent."

It was declared that the council would not enter into any contract for a wage which would not maintain labor, particularly, in view of the fact that there are no indications of the cost of living coming down but rather that present prices would be maintained for a considerable period.

In answer to the abuses on the part of tradesmen, manufacturers and financial people, the building trades have decided that any workman who does not do a full, honest day's work should be disciplined by his organization.

"Before the war 80,000 workmen were associated with unions affiliated with the building trades council," president T. S. Kearney of the council said, "Now the number has been reduced to 50,000 and only forty per cent. of them are employed.

⁂

Wants Money for Study of Clay Products

In order to continue the study of methods of measurement and technical processes used in the manufacture of pottery, tile and other clay products the Bureau of Standards has asked an appropriation of $35,000. This money represents an increase of $10,000 over that used last year.

⁂

Will Not Raise Freight Rates Until April

The Interstate Commerce Commission, Washington, D. C., has issued an order suspending until April 25, the proposed increase in rates on hollow building block, brick and other burned clay products in carloads from Brookville, Pa., to Philadelphia, New York and Baltimore. The increase totaled about one cent. per 100 pounds.

SHOW *the* BUILDER HOW *to* USE BRICK

Common Brick Manufacturers' Association in Leaflet Proves in What Way Brick is Most Economical Material—Suggests Plan for Selling Brick—Tells Builder Now is the Time to Build

IN PREPARATION for the anticipated era of building, associations in the various fields of clay products are advertising extensively to make sure that the industry will share in the building boom. This advertising not only brings forth the merits of clay products in construction, but shows the prospective builder just how he can use them to his advantage both in cheaper cost and better building.

The Common Brick Manufacturers' Association of America has realized the importance and value of educating the man who builds, in the uses of brick as a building material. In its most recent campaign the association is sending to brick manufacturers two leaflets compiled to show the advantages of brick in construction. These leaflets are to be distributed among prospects and it is suggested that they be placed one in every letter sent, put in real estate offices or disposed of in other ways which might suggest themselves. They have, on the back page, a space for the manufacturer to print his name. This, of course, makes the folder infinitely more valuable to the individual brick maker inasmuch as it gives direct results, enabling him to get in personal touch with the man to whom he is advertising, and to follow up the leaflet with more convincing sales talk.

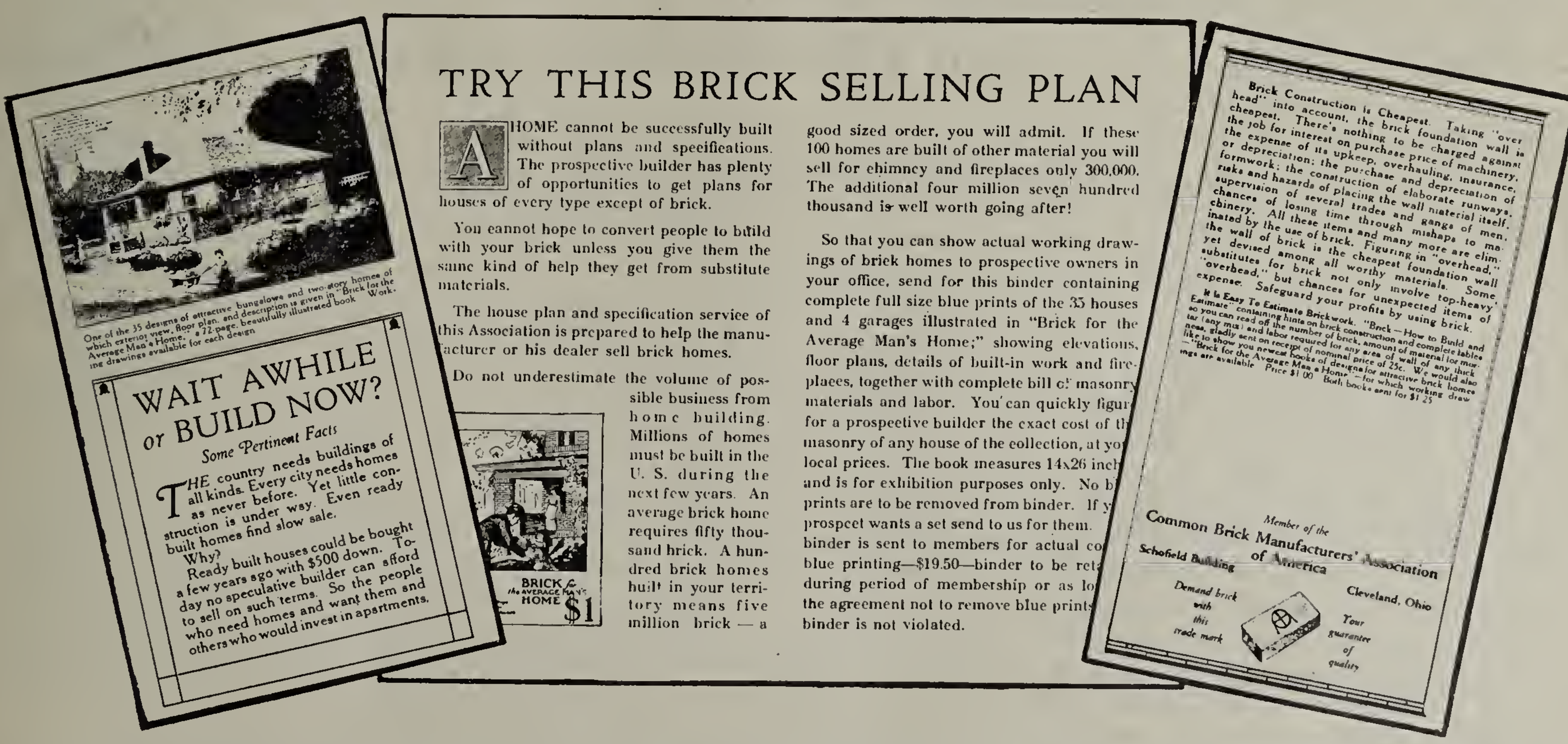
One pamphlet deals with the possibilities of brick in foundation construction. This is a field in which brick at one time was widely used. With the increasing popularity of other building materials, however, brick as a foundation material is threatened to be relegated to the background. It is set forth that the wide use of other materials in preference to brick is due in a large measure to the extensive campaigns of advertising which manufacturers of these materials are constantly conducting. Economy is always the biggest argument in a selling talk and this leaflet tells in which way it is cheaper and more profitable to use brick in the construction of basements.

NO HIDDEN FLAWS IN BRICK WALL

The superior beauty of the brick wall is a source of constant satisfaction and a basement room can easily be converted into a billiard, music or children's play room. Brick walls contain no hidden flaws, due to the fact that they are constructed by competent mechanics and no speculative operation enters into their construction. The thoro bonding of all units makes the wall capable of resisting severe side thrusts and any reasonable lateral strains to which it may be subjected.

No machinery is necessary for brick construction. It eliminates the building of elaborate runways and falsework and therefore there is no money tied up in high priced equipment. Another feature of economy in regard to this point is the fact that a brick building can be kept much cleaner during construction and therefor greatly reduces the cost of handling waste material and rubbish.

Time is saved with brick walls for masons can start immediately after excavation has been finished and carry the walls



One of the 35 designs of attractive bungalows and two-story homes of which exterior view, floor plan, and description is given in "Brick for the Average Man's Home," a 72-page, beautifully illustrated book. Working drawings available for each design

WAIT AWHILE or BUILD NOW?

Some Pertinent Facts

THE country needs buildings of all kinds. Every city needs homes as never before. Yet little construction is under way. Even ready built homes find slow sale.

Why?

Ready built houses could be bought a few years ago with $500 down. To-day no speculative builder can afford to sell on such terms. So the people who need homes and want them and others who would invest in apartments.

TRY THIS BRICK SELLING PLAN

A HOME cannot be successfully built without plans and specifications. The prospective builder has plenty of opportunities to get plans for houses of every type except of brick.

You cannot hope to convert people to build with your brick unless you give them the same kind of help they get from substitute materials.

The house plan and specification service of this Association is prepared to help the manufacturer or his dealer sell brick homes.

Do not underestimate the volume of possible business from home building. Millions of homes must be built in the U. S. during the next few years. An average brick home requires fifty thousand brick. A hundred brick homes built in your territory means five million brick — a good sized order, you will admit. If these 100 homes are built of other material you will sell for chimney and fireplaces only 300,000. The additional four million seven hundred thousand is well worth going after!

BRICK for the AVERAGE MAN'S HOME $1

So that you can show actual working drawings of brick homes to prospective owners in your office, send for this binder containing complete full size blue prints of the 35 houses and 4 garages illustrated in "Brick for the Average Man's Home;" showing elevations, floor plans, details of built-in work and fireplaces, together with complete bill of masonry materials and labor. You can quickly figur for a prospective builder the exact cost of th masonry of any house of the collection, at yo local prices. The book measures 14x26 inch and is for exhibition purposes only. No b prints are to be removed from binder. If y prospect wants a set send to us for them. binder is sent to members for actual co blue printing—$19.50—binder to be ret during period of membership or as lo the agreement not to remove blue prints binder is not violated.

Brick Construction is Cheapest. Taking "over head" into account, the brick foundation wall is cheapest. There's nothing to be charged against the job for interest on purchase price of machinery, the expense of its upkeep, overhauling, insurance, or depreciation; the purchase and depreciation of formwork; the construction of elaborate runways, risks and hazards of placing the wall material itself, supervision of several trades and gangs of men, chances of losing time through mishaps to machinery. All these items and many more are eliminated by the use of brick. Figuring in "overhead," the wall of brick is the cheapest foundation wall yet devised among all worthy materials. Some substitutes for brick not only involve top-heavy "overhead," but chances for unexpected items of expense. Safeguard your profits by using brick.

It Is Easy To Estimate Brickwork. "Brick—How to Build and Estimate" containing hints on brick construction and complete tables so you can read off the number of brick, amount of material for mortar (any mix) and labor required for any area of wall of any thickness, gladly sent on receipt of nominal price of 25c. We would also like to show you newest books of designs for attractive brick homes—"Brick for the Average Man's Home"—for which working drawings are available. Price $1.00. Both books sent for $1.25.

Member of the
Common Brick Manufacturers' Association
of America
Schofield Building
Cleveland, Ohio

Demand brick with this trade mark

Your guarantee of quality

Reproduction of Folder Put Out by Common Brick Manufacturers' Association to Help Manufacturers Sell Brick. Gives Arguments In Favor of Brick Construction straight up to the roof with no delay, bricking in door and window frames as they come to them.

The features of economy in construction resolve themselves into one thing—the simplicity of brickwork. One bricklayer and a laborer can build the basement walls of a home in a comparatively short time. The elimination of "overhead" when using brick makes such a foundation wall the cheapest yet devised.

LEAFLET ADVISES TO BUILD NOW

Another leaflet entitled, "WAIT AWHILE or BUILD NOW?", endeavors to bring before the man desirous of owning his home, facts about market conditions, labor conditions, and the general condition of the building industry. These facts are convincing arguments showing why there is no sound reason for delay in building. The factors governing prices are supply, demand and cost of production. Materials are plentiful, labor is easily available and there is little demand for either. The United States is an enormous number of homes short and a large amount of these will have to be built regardless of cost. This will again create an abnormal demand as in 1920, and with this demand will came a shortage of materials and labor, and a consequent return to higher prices.

An abundance of labor, the pamphlet points out, means greater efficiency—more work for the dollar. Contractors are crying for work and keen competition in that field will make for lower prices and buildings begun now will be completed more rapidly.

It is the best citizen who owns his home. A man can gain but small satisfaction from living in an apartment at the will of his landlord and paying a monthly rent, which in time may exceed the value of a good home, and acquire thereby not the slightest vested interest.

BRICK GIVES GREATEST RETURNS FOR MONEY

This folder also gives figures which prove that a brick home gives the greatest value for the money. If the value of a painted house is $7,000 and a brick one $7,500, buying the painted house will not save $500, as it would naturally be supposed. On time payments, figuring upkeep costs until title is clear, the painted house will actually cost more. As soon as built, a painted house depreciates at the rate of three per cent. a year, while a brick house does not depreciate at all the first five years and then only at the rate of one per cent. yearly. Thus the $7,000 frame house depreciates thirty per cent. or $2,100 during the ten years it is being paid for whereas the brick house depreciates but five per cent. or $375, in the same period.

These leaflets may be had from the Common Brick Manufacturers' Association at printing cost and a bundle of them is being distributed free to each member. The points brought out in the folders give evidence of much thought having been spent in the preparation of this data and the prospective builder who reads them will undoubtedly give the matter of brick construction serious thought when planning the building of his home.

BLUE PRINTS AVAILABLE FOR BUILDER

In a folder directed to the brick manufacturer a plan of selling brick is set forth thru which it is intended to give the manufacturer an opportunity to extend real practical aid to the builder. In order to get people to build with brick it is necessary to give them the same service which they get from manufacturers of other materials. The plan is to show to the builder actual plans and specifications for building houses of brick. The Common Brick Manufacturers' Association has available for use a binder containing blue prints of thirty-five houses and four garages. Thru the use of this book it is possible to at once figure the cost of the masonry shown therein at prices prevailing in the particular territory. Should the prospect become interested in any one of the plans, they may be obtained from the association.

The association will furnish free to its members advertising copy which may be used in local daily papers, and will keep the manufacturer supplied with literature if he desires. The only stipulation which is made is that any material which is sent to the manufacturer be really used so that the brick industry may reap its full share of profit during the coming building boom.

* * *

GOTHAM BUILDERS AWAIT STATE LEGISLATION —DEALERS CUT PRICES—PRODUCERS HOLD FIRM

FURTHER BUILDING material price reductions, making up the greatest volume of commodities reporting since the first of the year, reflect the vigorous measures being taken by building material distributors to encourage an early start for the 1921 building season, the Dow Service daily building report of January 17 states.

The principle items affected as shown in the latest list includes asphaltum, certain kinds of face brick, window and plate glass, blue, black and galvanized sheet iron and plaster boards in certain sizes.

There are also price reductions reported in the lumber department, in ash, basswood, both quartered and plain oak lumber, North Carolina pine studding, roofers, ceiling and partition; and all hardwood flooring including yellow pine.

These price reductions have originated at distributing points. There is a general loss-taking movement in market centers so as to unload the material purchased at high price peaks of 1920. One distributor, for instance, has been caught with 20,000 plaster boards on hand on which he is taking approximately a three cent loss on each one he sells under the lower price that has just become effective.

There is significance as far as the prospective builder is concerned, in the fact that most of the price reductions that have taken place in building materials since the first of the year have not originated at manufacturing points. In plain words, it means that the manufacturer, with his limited reserves of stock and his uncertain manufacturing costs, realizes that with an active construction market assured, even if not stimulated by curative or invigorating legislation, he will be able to dispose of all he has on hand this spring and will face a condition of demand in excess of supply far into the close of the year.

Cement salesmen have prophesied to their customers that delivery conditions of 1920 will be experienced in the summer of 1921. They say that there will not be cement on hand in sufficient demand to meet the market's requirements. Most of the cement mills are closed at present because of lack of forward purchasing by dealers and distributors who cannot gauge their market requirements and are disposing of their stocks on hand as fast as possible.

Face brick distributors are talking exactly the same way and are warning their customers that if they expect to be covered by the factory on facade material in July and beyond, purely upon an expectation basis unsupported by contract, they must not depend upon precedent and previous trade custom when they find themselves in danger of being unable to supply their jobs with the manufacturers unable to take their order for specified delivery.

LEGISLATION TO SOLVE HOUSING PROBLEM

Building construction interests are looking to Albany for speedy correction of past legislative mistakes with reference to solving the housing situation so that prospective building material buyers can take advantage of the present sags in building material prices resulting from an almost barren market. The building trade learns that vigorous efforts are to be made at Albany by several important large investors in real estate improvement to place early on the calender tax exemption and rent-law repeal or modification consideration. Health authorities support the general opinion that conditions of over-crowding in practically every municipality in the state demand that as far as the state legislature is concerned, the way be paved as early in the legislative year as possible, for a resumption of home building as the surest and quickest cure for the housing problem.

Building material manufacturers are practically of one voice when asked as to which way building material prices will go after the first six months of 1921 elapse. Their opinion is that there is one hope for keeping building material prices below the 1920 precedents and that is for an early buying movement to develop and they have little hope for such a condition to develop as long as there is inimical building legislation on the statute books at Albany.

OUTLOOK FOR 1921 IS STILL HIGHER PRICES

If the building material manufacturing industries of the country could be sure, by current demand, even tho spotty, that there was to be a building program before the middle of summer, they could take a chance and produce a reserve supply for mid-summer and autumn needs, but there does not appear to them to be much on the present surface of things to indicate that the present stalemate in new construction work is to be changed until all the dust of past and present legislation has been given a chance to settle. It simply means, in their opinion, that when the building bars are let down the demand for building material will be overwhelming.

In prepared roofing, there is afforded the clearest possible view of what is developing. Trade advices of January 10 announce that concurrent with an exceptionally sudden turn in demand for roll roofing, prices have already started to advance as raw materials used in the production of this important building commodity have been jumped 68 per cent. in price over the 1920 prices. This is the symbol of the entire building material market at present.

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Government Surveys on Clays

The United States Tariff Commission has prepared Tariff Information Surveys covering those products mentioned in schedule B of the Tariff Act. These include earths, earthenware and glassware. These surveys are unbiased by political or commercial influences and should prove extremely valuable to Congress in the actual work of tariff revision.

The surveys follow in general a standardized form, consisting of a description of the article, uses to which it is put, methods and processes of manufacture, notable divergencies between American and foreign methods of production, the nature and source of its raw materials, and statistical data concerning domestic production, imports and exports, prices, and costs of production as far as obtainable. Attention is called to changes in the present tariff act, such as will make the provision clearer, more consistent, and capable of better administration.

The surveys have been grouped into pamphlets, some of which are listed below:

"Brick and Tiles" includes surveys dealing with structural and refractory brick and floor, roof, wall and decorative tiles.

"Abrasives" includes surveys dealing with pumice stone, garnet, rouge, carborundum and other natural and artificial abrasives.

"Clays and Earths" includes surveys dealing with kaolin or china clay, ball clay, glasspot clay, pencil clays and feldspar, Fuller's earth and fluorspar.

"The Pottery Industry" includes surveys dealing with stoneware, earthenware, and porcelain products and specialties.

"Earthy and Mineral Substances" includes surveys dealing with sewer pipe, drain tile and fireproofing tile, and crushed stone and sand.

CONVENTIONS IN PROSPECT

January 31, February 1, 2 and 3—Common Brick Manufacturers' Association of America, Pennsylvania Hotel, New York City.

January 31, February 1, 2 and 3—National Brick Manufacturers' Association, Pennslyvania Hotel, New York City.

February 21, 22 and 23—American Ceramic Society, Deshler Hotel, Columbus, Ohio.

February—Kentucky Clay Products Association, Old Inn Hotel, Louisville, Ky.

March 1, 2 and 3—Western Ontario Clay Workers' Association, Chatham, Ontario.

March 8—Illinois Clay Manufacturers' Association, La Salle Hotel, Chicago, Ill.

Ontario Clayworkers' Ass'n Meets in March

The annual convention of the Western Ontario Clayworkers' Association will be held on March 1, 2 and 3, 1921. This convention is the twenty-fourth in the association's history and will be held in Chatham, Ontario, Can.

The association has a large membership, comprising eighty-four per cent. of all clay products manufacturers in Western Ontario. An interesting program has been arranged and the meeting promises to be the most successful one yet held.

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Wisconsin Clay Manufacturers Will Not Meet

It has been decided by the executive committee of the Wisconsin Clay Manufacturers' Association to adjourn the annual convention of this association for one year, subject to the call of a regular or special meeting.

The HARVESTER PLAN

Continuation of Article Appearing in January 11 Issue—Harvester Company's Plan of Industrial Relationship Found Entirely Practicable After Year's Test of Trying Industrial Conditions

By W. E. Worth

Assistant Manager, Industrial Relations, International Harvester Company

"WHEN, IN INDUSTRIAL DAYS gone by, an employe had a complaint, he harbored it, he nursed it until he quit or spread discontent by repeating his tale to interested listeners. But this is true no longer and now the Works Council, in providing protection for the employes regardless of sex, color or creed, religious, political or other affiliations, is here to stay.

"From the day of its appointment, the educational committee concentrated upon this one theme—THIS IS AMERICA; TALK AMERICAN. Efforts were made by arrangement with the foremen of various departments to place the idea of Americanization before the men, showing them that all advancements in position depended upon their ability to speak our language, and upon their becoming citizens. All men holding better positions than laborers not being American citizens, but holding their first papers, were asked to attend the civics class. In case of their refusal, their places were to be filled by those who would attend. Foremen were also instructed to follow up absentees.

SECURE BRANCH LIBRARY

"During that time, the Chicago Board of Education supplied this plant with the service of Miss H. Margaret Boe Miss Boe grasped the work so readily and so amply demonstrated our need of someone to carry on this work, that upon recommendation of the Works Council the management secured her services permanently, and she is now in the employ of the company at the plant from 8:30 A. M. to 4:30 P. M. daily. After 4:30 P. M. or during class periods, she is still under the supervision of the Chicago Board of Education. She teaches the Americanization classes and the civic class, and makes daily rounds of the plant to encourage the class members to continued efforts and to find out about those not attending school. Thru the efforts of the committee, a branch of the Chicago Public Library was installed at this works numbering 1,500 volumes, the books ranging from fiction to scientific research, and having a weekly circulation of 500 books.

"Pupils crowded the school room and it was soon felt that the quarters were inadequate. Men in the shops, hearing of other men getting their citizenship papers, made special efforts to get theirs, and in a short while the Americanization classes were filled. The educational committee, thereupon made a request for a new school room, with the result that the room at the south end of the machine shop building, second floor, was partitioned off. One-half was made into a machine repair shop, and the other half given to the school. This room is about twice as large as the old room, is able to accommodate twice as many scholars, and has necessitated the addition of another teacher. It is also the center of social activities at the plant, being crowded every noon by men and women from the factory and office, who find the half hours spent there very valuable indeed.

WORKERS URGED TO ATTEND SCHOOL

"Lists have been made of the names of the men who do not attend school (as the personnel of the plant has increased 40 per cent. since the Works Council held its first meeting) and a genuine appeal is being made to them to attend school. So far, the efforts of the committee in this direction have been very gratifying. The report was made at the February Council meeting that on January 1, 1920, 1,300 employes were native Americans, 600 were naturalized, 800 had their first papers, *and that no one was without first papers.*

"As time goes on, the educational committee plans to conduct educational activities other than Americanization work. The committee members and their chairmen have pledged themselves to leave no stone unturned to make the tractor works 100 per cent. American.

"The early activities of the welfare committee were largely confined to gardening, lunch counters and sports. As time went on, however, the field broadened until everything that actually concerns the well being of the employe, from the time he is received in the employment department until the day he retires on pension (and even after that) is looked after by this group of men who comprise the most active committee of the council.

FIRST CLASS RESTAURANT BUILT

"As the plant grew, the need of a larger and better restaurant was felt, and accordingly the present restaurant, which has no superior anywhere for cleanliness, sanitation and good things to eat, was built at a cost of $12,000. It has ample space to accommodate 600 people, and it is operated on a 'food-at-cost' basis. The restaurant chefs are the best that can be secured, and the manager of the restaurant is a man who has had a wide range of experience in this field. In connection with the restaurant, up-to-date lunch booths are installed thruout the shop, and recently lunch booths have been opened for the men on the night force, so that at midnight they can procure hot soup, coffee, sandwiches and pie.

"Employes at one time were allowed to purchase materials used by the company for their own use. An extra charge of 10 per cent. was added to the cost of the article to cover the expense of storage, bookkeeping, etc. This privilege was so generally utilized and entailed such added expense in time and money that the management was faced with the alternative of increasing the extra charge or abandoning the plan; it chose the latter course.

WANT PRIVILEGE OF BUYING COMPANY MATERIAL

"After this was done, the employes sent in a petition to the management asking that the privilege be again accorded them. This the management declined to do, setting forth the fact that the cost of deductions from the payroll, storage, and other items was heavy, and it did not feel that the individual employes would be greatly benefited. The employes therefore took it to the council thru the welfare committee. The council finally decided that the employes should again have the privilege of buying at cost articles that the company uses in the manufacture of its products, but that all the 'paper work' should be eliminated. In other words, the employe now pays cash for everything he buys, for it was only on this basis that the council was able to make possible the purchasing privilege.

"In order to combat the high cost of living, the welfare committee took it upon itself to investigate the purchase of food in quantity for sale to the employes. As a starter, four carloads of potatoes were purchased and sold to those desiring them at a cost of $1.60 per bushel, or $4 per bag of two and one-half bushels. In addition to this, 10,000 pounds of honey were bought and sold at 33 cents a pound, and approximately five tons of coffee were sold at 41 cents per pound. Foods were also bought from the surplus stock of the United States Army and sold to the employes at a great reduction.

SALES HELD WEEKLY

"These sales were so successful that it was decided to hold them weekly, which has been done. Raincoats, overalls and other articles of shop wearing apparel that the men desire, are added at prices so attractive that outside stores cannot compete. It was at first the intention of the committee to run a cooperative store, but after a thoro investigation by several of the members, who went to Cleveland, Ohio, and elsewhere, to see other industrial and cooperative stores, the idea was abandoned, and it was decided to run the store as it is now with its few complaints, instead of a large scale cooperative project with its attending large number of complaints.

"The following rules on transfers were found necessary:

1. Employes desiring a transfer should first go to their foreman. If the employe does not wish to see his foreman personally, he has the privilege of making his request thru his council representative. If it is agreeable to his foreman that he be transferred, the employe is to be sent to the employment department with Form D-7119 which gives the employment department the privilege of transferring.

TRANSFERS CANNOT BE EFFECTED INSTANTLY

2. It should be understood that transfers cannot be made on the spur of the moment, therefore it may be necessary for the employment department to return the man to his department until there should be an opening at the work he wants. The employment department is to notify the foreman as to the results of this interview so that he will know what action has been taken.

3. Any employe who goes to another department looking for a transfer without first consulting his foreman, immediately forfeits all right to a transfer.

4. Any employe who has been refused a transfer by his foreman and thinks that the refusal is not justified, should handle the case as outlined in the Harvester Industrial Council Plan.

"Discharges, complaints of employes, the hiring of men, matters of transfer from department to department, or from works to works, were among the matters assigned to this committee to handle.

RULES FOR CONDUCT OF EMPLOYE AND FOREMAN

"A set of rules showing the relationship between foreman and employe, and emphasizing the harmony that should exist between them was written up for daily use at this works. It was found to be so good that it was later adopted by the Hamilton, Ont., works and Auburn, N. Y., works, and may soon be in use at other Harvester plants.

Rules for Foremen

"Be Fair. Have no favorites and no scapegoats. A foreman has to act as judge many times every day, therefore he must be just.

"Make Few Promises and Keep Them. A foreman must be exact in this particular. Sometimes a foreman forgets that his job requires a high standard of truth and honor.

"Don't Waste Anger—Use It. Anger is valuable and should not be used carelessly. Keep your most forceful language for special occasions.

"Always Hear the Other Side. Never blame a worker until he has been given a chance to give his point of view.

"Don't Hold Spite—Forgive. When you have to scold a worker, go to him later and show him his faults in a friendly way.

"Never Show Discouragement. Never let yourself be beaten. A foreman must have perseverance and the 'never say die' spirit.

"Notice Good Work as Well as Bad. Let the workers see that you can appreciate as well as condemn.

"Watch for Special Ability. Take a keen human interest in your workers. Put each one where he can do his best.

"Observe the Rules of Seniority, Whenever it is Possible.

"Take Your Full Share of Blame. This is the most difficult of all. The foreman who can share both blame and praise with his workers has discovered the secret of managing men.

"Prevent Accidents. Educate or eliminate the careless men. The good foreman is known by his men."

Rules for Workmen

"There is always more than one side to every question. Look for at least two sides before you speak or act.

"Stand for what is just, right and fair for yourself and the company on all occasions.

"Do not be afraid to express your honest opinion, but be reasonable and patient.

"Try to do your work efficiently and avoid increasing the worries of your foreman.

"Remember that every piece of work slighted or inefficiently performed is a direct loss in wages to some of your fellow workmen and also a loss to you.

"Take criticism kindly. The person giving it has your best interests in view. He may be wrong but give him the benefit of the doubt.

"No one can foretell your day of opportunity. It comes early to some, late to others. The only way to be ready is to do your duty every day.

"Master monotony, then all other jobs are pleasure.

"Take an interest in the success of your fellow workmen Help them to succeed.

"Don't hesitate about asking your foreman questions; it is better to make him angry that way than to spoil a piece of work.

WORKS COUNCIL PLAN EXPLAINED TO NEW EMPLOYE

"It was thought that the Works Council plan should in some way be explained more fully to the new employe. After a full discussion the committee recommended that each foreman supply the employe representatives with a list of new men hired each day. The employe representatives would then go to the new employes at the first opportunity, preferably within two or three days, to get acquainted with them and to personally explain the Harvester Industrial Council Plan. It was thought that by doing this a new employe would be more likely to get the right idea about the council from the start. It was also felt that in a personal chat the newcomer would ask more questions and receive more complete answers than thru the use of the booklet, or from questions asked the foreman. Booklets were also printed in five different foreign languages.

STRIVE FOR IDEAL WORKING CONDITIONS

"Too much cannot be said in praise of the Health and Safety Committee. The ideal working condition is one where, among other things, absolute sanitation prevails, and to this end the health and safety committee has ever been working. Members did not wait for complaints to come in when they were appointed, but they went right after the things they thought needed attention. Guards for trip-hammers; the inspection and ordering of new stretchers, and the marking of them with an unmistakable insignia; the elimination of dangerous speed on the part of auto drivers in the plant, thru the posting of speed rules; the use of a pulley shaft protector in testing 8-16 tractors; the delegation of a man to disinfect toilets, ventilation systems in the experimental machine shop, department 28; wire doors for ventilation in the east side store room; hoods over brazing furnaces to carry off fumes; better lighting conditions around machines and in the experimental machine shop—these are only some of the good things done by this committee, in most cases entirely without solicitation on the part of the employes.

BETTER MILK SOLD AT PLANT

"Following complaints that the milk sold at this plant was not up to standard, the committee had it tested by city bacteriologists, with the result that the milk was found richer in butter fat than the Chicago ordinances require.

"Particularly was the council called upon to stick to its guns during the time of the industrial unrest in the month of July, 1919, when the employes of the Tractor Works were intimidated by employes of other works who had walked out, to such a point that they were forced to go too, and to their credit it may be said, greatly against their will. Altho this happened when the council was still in its infancy, the stabilizing effect the council had on affairs in general cannot be gainsaid. It was given to the council to tell the men when they should leave the plant in order to protect themselves, and operations were not resumed at this works until the council told the men to come back. In other words, the men who walked out did not make a move that was not advised by the council, and when they came back it was expressly on the orders of the council."

Now, let us give you an "official management" statement of experience, taken from a letter written by Harold F. McCormick, president of the company.

Speaking of the sudden walkout on July 5 at our McCormick Works—the one plant, I again beg you to note, where the Harvester Industrial Council Plan was not accepted by the employes—Mr. McCormick says:

COUNCIL HANDLES DIFFICULT SITUATION

"From the outset the situation at the other plants following the walkout at the McCormick Works was handled by the respective Works Councils with the utmost prudence and signal ability. At the nearby Tractor Works—and at the Deering Harvester Works, the respective Works Councils met in special session. They heard reports of intimidation, actual and threatened, encountered by employes upon the streets and at their homes. They took cognizance of the race rioting then in progress in Chicago, and of the impending street car strike. On account of these conditions, the two councils voted to recommend that the Tractor Works and Deering Works be temporarily shut down.

"Accordingly this was done, the Tractor Works closing on July 16 and the Deering Works and Twine Mill on July 18—in the latter case, after several aggravated assaults, even on aged and crippled employes.

"The management advised the Works Councils that they should be the sole judge as to when these plants should reopen.

EMPLOYES ASK PLANTS BE CLOSED

"Thus was presented a unique situation in the country's industrial history—the closing of factories in which there was no dispute of any sort, done upon the sober judgment and at the request of the employes themselves, voiced by their elected representatives. While the works were closed, the councils were in frequent session and kept in touch with the thousands of scattered employes, ascertaining their views and advising them of the conditions.

"When the dates for reopening the plants were set by the Works Councils the details were entirely planned by them, and here occurred another unique situation in American industry—the requesting by the employes of police protection against outside violence.

"At the Tractor Works, the council invited the police captain of the district to a conference. The employe representatives informed him that a large majority of the men wanted to return to work and would do so and that the plant would be reopened if assured adequate police protection. At the Deering Works the same result was reached thru a petition addressed by the Works Council to the chief of police.

PLANTS OPEN UNDER POLICE PROTECTION

"On August 4 the Tractor Works reopened and on August 11 the Deering Works. It should be written down to the credit of Chicago and of the police department, and particularly the captains in charge, that the police protection was ample and competent. There was no violence and no intimidation.

"The first day at the Tractor Works, two-thirds of the normal force reported and within a few days the plant was fully manned. At the Deering Works the process of resumption was slower, but full operation was reached in a short time.

"In reopening the McCormick Works, where there was no council, the management faced a different problem. Two weeks after the walkout a delegation, professing to represent the so-called 'Federal Union,' presented certain demands, including the closed shop and no piecework. This delegation was handed a written statement, subsequently sent to all employes of the McCormick Works, saying that the Harvester Co. had always run its factories on the open shop principle and would continue to do so; that it would have nothing to do with those who had instigated or willingly participated in and still supported the inexcusable and un-American walkout before making any demands, but that when the works reopened, the company would welcome back the many employes who had quit under intimidation and would discuss with them individually or collectively any matters of mutual interest.

"On August 18 the McCormick Works and Twine Mills were reopened and within a week 4,500 employes were at work."

DIFFICULTY AT AKRON FACTORY

Subsequent to this incident or chapter of incidents in Chicago, an industrial situation arose at our motor truck factory in Akron, Ohio, as to which the Works Council again proved its soundness of principle and efficacy of operation.

According to press dispatches, a strike of union machinists was called in Akron, affecting about 5,000 skilled men. The dispatches stated that this strike resulted in the closing of all local factories except that of the Harvester Co., where, it was stated, the men were not called out because the company had already negotiated an agreement with its employes. Our Akron Works Council promptly issued a statement explaining the character and purpose of the council, declaring that there had been no such settlement as was reported in the newspapers and that all the employes were at work, being entirely satisfied with the working conditions and relations established and conducted under the Works Council.

At our Wisconsin Steel Works in South Chicago we have a Works Council that has functioned intelligently and effectively from the very beginning. On Monday, September 22, 1919, the day when the leaders of the steel strike aimed a body blow at the vitals of that great industry—the day when the streets of South Chicago were filled with union pickets and when all plants but ours were under heavy police guard—more than 75 per cent. of our steel mill employes passed unprotected thru the picket lines and thru the gates and to their jobs.

MEN LOYAL TO WORKS COUNCIL

I wish there were time for me to quote to you from the minutes of that Works Council the statements of the employe representatives—some of them union men—telling how and why they and the men they represented had reported for work. To my mind those minutes and that experience are striking testimony, not as to what has been, but as to what can be accomplished by fair, frank, genuine, fifty-fifty industrial cooperation. They make it clear that those men braved the perils of that menacing situation solely because they were loyal to their employment and loyal to their Works Council.

Nearly all of that anxious day the Works Council was in session. At the request of the employe representatives, it carefully considered the situation, each man expressing his views and the views of the men who elected him. Finally, along in the afternoon, the council came to a vote upon the advisability of continuing the operation of the plant. The result of that vote was expressed in a statement to the employes and to the public which said that in consideration of the fact that some of the plants of the district were practically closed down, and in consideration of the nation-wide extent of the strike, and the consequent possibility of violence and the interference in any plans to continue operating, it was thought advisable, as a measure of public and personal safety, to close down as soon as possible until such time as the Works Council should recommend resumption of operation.

STEEL PLANT SHUT DOWN IN ORDERLY MANNER

The slow and rather intricate process of slowing down a steel plant was carried on in perfect order. It was done with the same care and attention to detail that a thoughtful man would exercise in shutting up his home for an extended absence.

Practically every day thereafter the Works Council was in session, considering the local and general conditions of the steel strike and arranging to keep in touch with the employes of the plant.

On October 8, after careful investigation and consideration, the Works Council sent out to the employes and to the press a statement reviewing the facts of the shutdown and then going on to say:

"After nearly three weeks of careful observation of conditions in this district, the Works Council is now satisfied that employes may safely return to work. We are convinced that it is the desire of a large majority of employes to resume work, and that in so doing, they will be supported by the loyal and patriotic people of the community. The Works Council therefore notifies you in accordance with the foregoing resolution that the gates of the works and all departments will be open at 7:00 o'clock next Monday morning, October 13."

COUNCIL HANDLES DETAIL ATTENDING OPENING

As in the handling of the earlier and purely local industrial disturbances at other Chicago plants of the Harvester Co., the Works Council of the steel mills took upon itself the functions usually exercised by plant managers with regard to police protection and incidental detail of that character. The steel works reopened at the appointed hour that Monday morning, and it is a pleasure—it is a tribute to the belief of our men in the Industrial Council principle—to be able to say that more than 800 employes reported for duty.

Work has gone forward steadily ever since at that plant, with the Works Council not only taking care of the industrial relation, but doing the best it can to take care of that civic relation in which it is presumed that no man shall be interfered with in his right to work.

On November 1, 1919, started the nation-wide coal strike which lasted 40 days. The International Harvester Co. has a large coal mine at Benham, Ky., and at first the employes (probably a majority of them members of the coal miners union) were undecided as to what course to pursue. On the one hand they faced the energetic efforts of the leaders of their labor union to keep them out on strike—on the other hand they were moved by a strong sense of loyalty to reciprocate in kind for the fair and progressive policies of the company. After four days of idleness, the members of the Works Council called a mass meeting of all the mine employes, at which it was decided to put the question of a return to work up for secret ballot, which was done on Thursday, November 6. The ballot was conducted by all the members of the Works Council and practically every employe voted—the final result being 463 to 17 in favor of returning to work on the following Monday morning, and on that date every man in the camp was back on the job!

ONLY ONE QUESTION RESULTS IN DEADLOCK

The most significant thing to me in the history of the Industrial Council Plan is the fact that with twenty-two councils, with an experience record of more than a year and a half, handling hundreds upon hundreds of questions regularly once a month, and on special occasions, and with the seemingly easy provision for deadlock on the matter of ballot, there has been but one matter referred to the president as a result of deadlock.

I can, therefore, say to you that there has not been a single instance in any case which has come up in any of our councils where the group action, after due deliberation and frank discussion on the part of both management and employes, has been anything but fair and just.

As much as the employes have profited by this plan—and they have profited substantially—just so much too has the management profited, because now we have a fair idea of the employes' reaction and they have a fair idea of the reaction of management in the shop. Instead of doing something *for* them, or something *at* them, or making our best guess as to what would be the right thing to do, we sit down and talk the thing over with the chosen representatives of the men in the shop and we synchronize our action according to their reactions and we get in the end that which is best for both, and we have proved to ourselves, as we feel we have proved to the men, that the interests of the employers and workers are substantially the same and that the prosperity of both depends on their mutual prosperity. From this experience, lasting over a year and a half, participated in by the representatives of about forty-five thousand employes, we believe we have a pretty accurate cross-section of American industrial life, and we are more firmly than ever of the belief that at heart the American workman wants a fifty-fifty proposition and nothing more—and if he gets that, then peace and prosperity will follow.

⁂

Chance to Study and Earn at Same Time

At the University of Illinois fourteen Research Graduate Assistantships in the Engineering Experiment Station are maintained. Two other such assistantships have been organized under the patronage of the Illinois Gas Association. Research work and graduate study may be undertaken in almost any technical subject including ceramic engineering. Applications for these assistantships must be in the hands of the Director of the Station not later than the first day of March. The annual compensation for each of these assistantships is $600.

⁂

1920 Big Year for Iron Production

According to the "Iron Age," pig iron production in 1920 was 36,414,114 tons, not including charcoal iron, compared with 31,004,500 tons in 1919 and 30,052,000 tons in 1918, the latter being high annual production.

FIFTEEN MILLION TONS *of* COAL!

The CLAY INDUSTRY'S ANNUAL COAL NEEDS

"BRICK WITHOUT STRAW" is the category that all clay products fall in, in this modern age. However, "brick without fuel," and lots of it, is impossible. Investigations will point out that the fuel needs of the clay products industry are tremendous. The industry ranks high in the use of all types of fuel but coal is the chief source of heat energy used.

Very few persons know that the clay industry is the third largest industrial user of coal. Only the Coke industry and the Iron and Steel industry exceed it as a user of bituminous fuel. Out of the fifty-nine leading industrial-consumers of coal, the clay industry not only ranks third but actually requires more fuel than all the other 282 industries combined, listed in the report of the Department of Commerce.

The latest government statistics available date back to 1914, but the relative proportion of the relationship between the various industries remains the same now. These statistics show that the clay industry required in 1914 more than nine million tons of bituminous coal. Considering the increase in production of clay products since 1914, it is estimated that fully 15,000,000 tons of bituminous coal are required annually by establishments in the clay industry. This quantity of fuel is used by some 4,000 plants. About eighty per cent. of these plants are located (in order of rank) in the following states: Ohio, Pennsylvania, Illinois, Missouri, New Jersey, Indiana and Iowa. However, the states using the largest quantity of coal in order of their importance are: Ohio, Illinois, Pennsylvania, Indiana, Iowa, New Jersey, Missouri, Texas, Tennessee and Kentucky.

CLAY INDUSTRY USES MOST COAL IN SUMMER

Unlike most industries, *clay plants are heaviest users of coal during the summer months.* This is fortunate for both the plant owner and the coal operator who sells coal. Coal is usually easier to obtain in the summer months because operators find their demand slackened during this period.

Most any coal can be used on clay plants and usually a cheap coal is wanted because of the large requirements and the need for keeping down burning costs. Whenever possible, plant owners use a 1½ to 3 or 3 to 6, size coal. Inasmuch as the color of the product affects its salability, and since the flames and gases from the coal usually come in direct contact with the ware, clay producers are careful to choose a fuel which will bring out the proper color in their clay. In general, a coal high in volatile matter and producing a flame of long length, so as to penetrate thru the kiln and insure uniform burning, is desired. Moreover, it should be of high calorific value, low in sulphur, and be of a non-clinkering variety.

The kind of product manufactured and the kind of kiln used govern largely the choice of the coal purchased. In general, there are two types of products,—those whose sale is affected by the color and texture of the ware, and those which do not require a particular color or texture. Of the first class there are: pottery, usually burned to a temperature varying from 2,000 to 2,500 deg. F.; terra cotta, burned to 2,300 to 2,400 deg. F.; sewer pipe, fired to a temperature of 2,100 to 2,300 deg. F., and face brick which is fired to a temperature of 1,800 to 2,100 deg. F.

COAL WITH LOW SULPHUR CONTENT DESIRABLE

For these products a coal of high heat value and low in sulphur is desirable. The sulphur if present in large quantity would be liable to cause a scum because of the formation of sulphates with the bases in the clay, or it may interfere with the brilliancy of the glaze.

Those products which are not required to have a high class color and texture are: common brick, which is burned to a temperature of 1,500 to 1,900 deg. F.; drain tile, which is burned to 1,800 deg. F.. hollow tile, which needs a temperature of 1,800 to 2,000 deg. F.; paving brick, which are usually burned to 2,200 to 2,300 deg. F.; and fire brick and other refractories, which are burned to 2,200 to 2,600 deg. F.

In general, there are two types of kilns,—continuous and periodic. The continuous kilns are fired with coal or producer gas. About fifty per cent. of them are fired with producer gas which necessitates purchasing a good class of fuel for making gas. Of those continuous kilns fired with coal directly, a fine pea coal or screening is generally used. In some cases the fines of the coal mine which are unsalable elsewhere, can be used on clay plants having coal-fired continuous kilns.

Of the periodic kilns, some are fired with producer gas in which case a good grade of gas producer fuel is required. However, by far the majority, of periodic kilns are fired with coal direct. The average size plant has about eight kilns and each kiln is equipped with eight to ten furnaces. These

Approximate State Coal Consumption in Tons, in Clay Industry

Ohio	3,500,000	Missouri	550,000	Georgia	225,000
Illinois	2,000,000	Texas	375,000	Kentucky	225,000
Pennsylvania	1,500,000	Tennessee	375,000	West Virginia	200,000
Indiana	800,000	Kansas	360,000	Minnesota	170,000
Iowa	600,000	New York	350,000	Arkansas	160,000
New Jersey	590,000	California	270,000	Michigan	120,000

What If a Runaway Coal Market Reoccurred?

The dire aspects carried by a coal shortage are too fresh in your minds to need recalling. The memories of the hardships and interruptions caused by a lack of coal and the high price paid for it are none too pleasant. Many clay products plants were prevented from operating their establishments when business was plentiful and an opportunity to make up for the lean years during the war, at hand.

This article points out to you the huge requirements of the clay industry and it should remind you of the urgency of tieing up with some reliable coal operator whose capacity is such that he can give you service. The operators using space in this journal are dependable.

furnaces, in general, are fitted out with three different kinds of fire boxes; flat grate, slant grate and dead-bottom. Clinkering coal is especially objectionable where flat grates are used. Coal of this variety will slag and cake upon the grate often to an extent that shaking is impossible, and removing the clinker is only possible by the use of slice bars after which hooks are used to extract the clinker from between the grates.

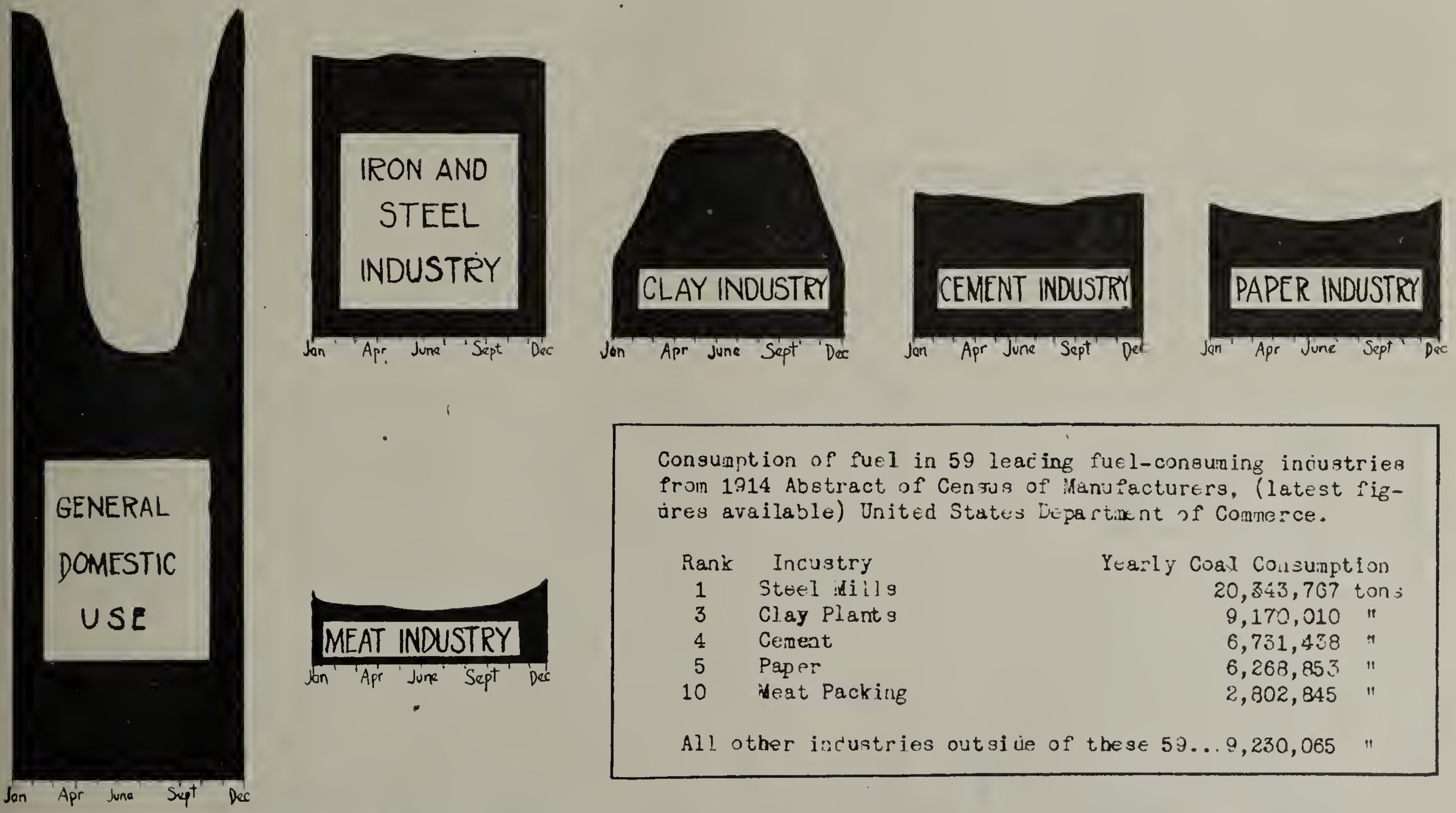
GRATE INFLUENCES CLASS OF FUEL USED

For the slant grate a large variety of fuel may be used. The grates do not extend to the back wall of the furnace, but are supported by cross bars one at the furnace door and another six inches to one foot from the bottom of the ash pit, depending upon the slope at which the bars are set and the depth of the furnaces. The angle at which the bars are set is usually 45 deg.

Dead-bottom firing in periodic kilns is done without the use of grate bars. The furnace is constructed with a front ash pit opening for draft and one above for the admission of fuel. Provisions are made for secondary air supply by small apertures leading into the neck of the furnace. As the fuel accumulates in the fire box the draft thru it becomes less and more air is admitted from above. If the coal forms a spongy, viscous clinker there is tendency for the latter to assume an incline similar in position to the inclined grate bar, and if the clinker is sufficiently rigid and porous,—to serve the same purpose.

If the clinker is too fusible or lacking in porosity, the coal does not give satisfaction by this method of firing. The dead-bottom furnace is gaining in popularity since it is easily handled, costs little to build and burns low grade coal with good results. The best fuel for this type of fire box, however, is mine run of the hard clinkering variety.

Besides the fuel used in kiln furnaces, considerable coal is required in the power plant which furnishes the necessary energy to drive the heavy crushers, pug mills and brick machines.



Consumption of fuel in 59 leading fuel-consuming industries from 1914 Abstract of Census of Manufacturers, (latest figures available) United States Department of Commerce.

Rank	Industry	Yearly Coal Consumption
1	Steel Mills	20,343,767 tons
3	Clay Plants	9,170,010 "
4	Cement	6,731,438 "
5	Paper	6,268,853 "
10	Meat Packing	2,802,845 "

All other industries outside of these 59...9,230,065 "

The Curves in This Chart Show Estimated Monthly Coal Consumption of Clay Industry, Other Common Industries and General Domestic Use. The Clay Industry It Will be Noted, Unlike Others, Has the Peak of Its Curve During the Summer Months. Interesting Table Showing Coal Consumption of Some Large Industrial Users is Included in Chart.

"OWN YOUR HOME" EXPOSITION *to* STIMULATE BUILDING

Chicago and New York to be Scene of Exhibit of Wide List of Materials That Make a Home—Clay Products to be Represented

HOPES RUN HIGH as to the stimulation that home building will be given as a result of the "Own Your Home" exposition scheduled for the Coliseum, Chicago, March 26 to April 2, to be shortly followed by an equally imposing affair at New York City, April 16 to 30.

However, the value and success of these undertakings will be directly dependent on the enthusiasm and support given by the various divisions of the construction industry. Face brick men in Chicago are giving this exposition much thought and are planning attractive exhibits.

The management of the Chicago and New York expositions is in the hands of capable men who are lending every effort towards making the undertaking successful. Every possible phase of home owning and home construction is being accorded recognition in the exposition program. There is a feeling among some brick men that this show should be of greater interest and more successful than the clay show of 1912.

Just what the "Own Your Home" exposition means is well stated in one of the bulletins sent out from the exposition headquarters. It states that the "Own Your Home" campaign contemplates the active cooperation of all interests in constructively planning for and bringing about:

HOME MAKES FOR GOOD CITIZENSHIP

"A. The financing of the home by moulding public opinion, which includes the banks and lenders of money, to the effect that the home is the best insurance of good government, better citizenship and the best stabilizer of labor and banking credit.

"B. Adequate supply of building materials, promoting better production and distribution facilities, so that the law of supply and demand which governs prices, may eventually stabilize building costs.

"C. Creating a never-ceasing heartfelt desire in all American citizens to own their own homes, to the end that they may become a contented productive law-abiding force in their respective communities.

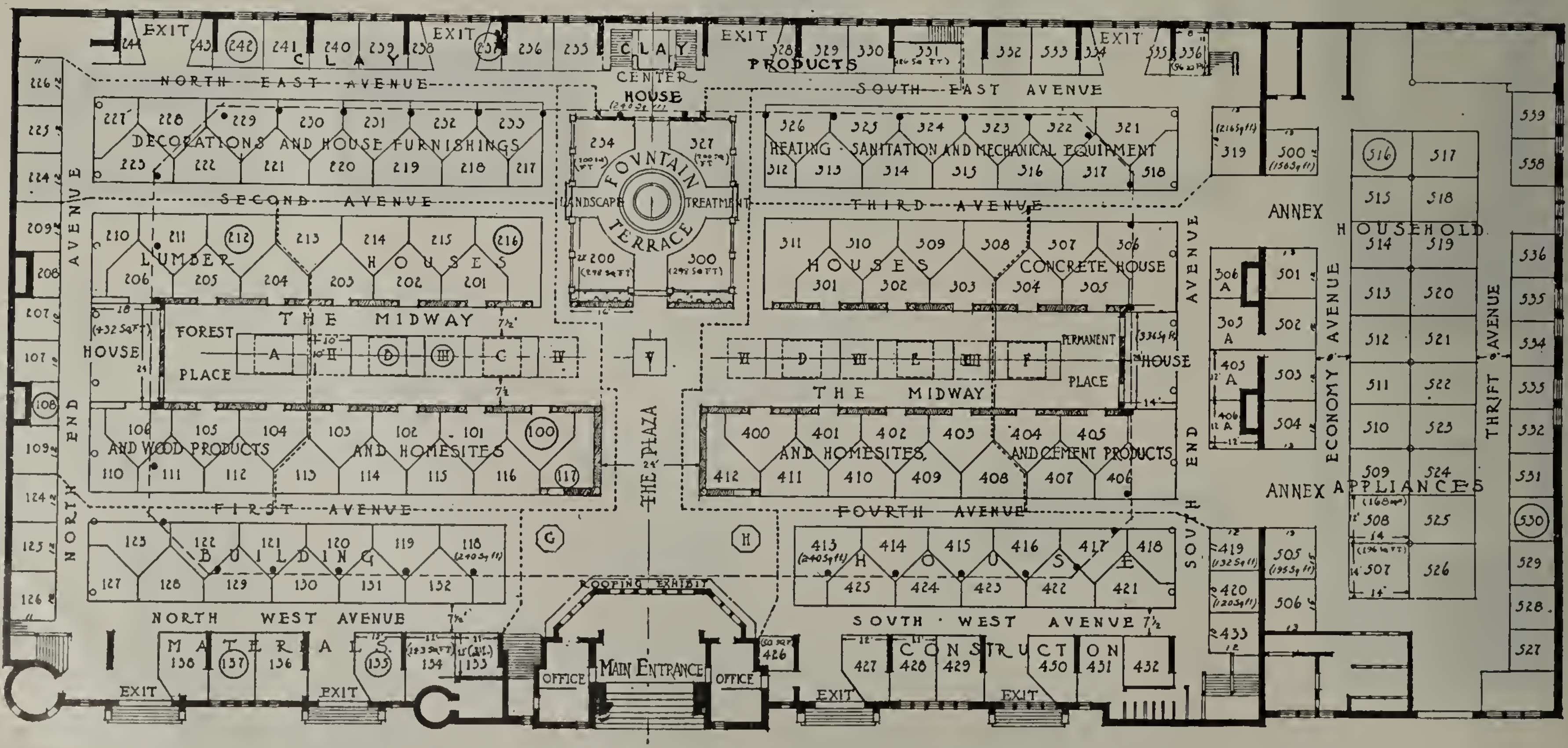
"D. To create a sentiment of thrift that will induce every homeless or rent-paying person to begin saving 'now' to enable them to make the initial payment for the home they will eventually own.

"E. To induce those who have the money (actually thousands of them were developed at the last exposition) to buy, or build 'now.' It has been well said 'the man who builds his own home, does not build for profit.'

PLANS TO BE FURNISHED AT NOMINAL PRICE

One of the prominent features of the show will be the exhibition of plans for small houses. A prize competition has been run in the architectural journals for artistic and economical plans for small houses. The winners of these prizes will have their design published in book form which will be available at the expositions. In addition to this, the winners will furnish plans and specifications at a nominal price, so that prospective builders will be able to have the benefit of architecturally correct plans, as well as ideas for economical building.

Facades of the prize winning home will be exhibited at the



Floor Plan of Coliseum, Chicago, Ill., Showing the Arrangement of Exhibits at the Coming "Own Your Home" Exposition. Note Location of Clay Products Booth in Back of "Fountain Terrace" exposition. One will be built of stucco finish, another of frame, a third of brick. The Chicago Face Brick Dealers' Association is interested in this feature and is also giving enthusiastic support to the clay products section of the show. Wm. P. Varney, manager of the Chicago branch of the Hydraulic-Press Brick Co. is in charge of the committee on clay products, and he is doing his utmost in planning an adequate and interesting division for the clay products section. Mr. Varney is very enthusiastic as to the benefits that will be derived from the exhibits.

DEMONSTRATION *of* NEW DEPARTURE *in* BRICK WALL CONSTRUCTION *to* FEATURE N. Y. MEETING

TWO SENSATIONAL SURPRISES are in store for the members and delegates who attend the convention of the Common Brick Manufacturers' Association of America at New York, Hotel Pennsylvania, beginning January 31. Both of these, in the opinion of Ralph P. Stoddard, secretary-manager, have to do with increasing the business for the brick manufacturer. One of these affects production and costs directly, and includes a plan that has been sought after for years by the trade. It is expected that millions of dollars can be saved to the industry by the adoption of this plan.

But the big feature, in the minds of those who have been let into the secret, is contained in an entirely new method of building a brick wall, a method that will reduce competition against brick to a minimum and induce architects, contractors and builders to use brick who had never expected to use it before, according to experts who have been made acquainted with the method.

The method is to be known as the "Ideal Wall." It marks the first new departure in producing a brick wall since the earliest days when brick was first used. The outstanding feature is that a brick wall can be built for from 25 per cent. to 35 per cent. less cost than the old brick wall. The difference in reduced cost is regulated only by the thickness and stress required. This saving is represented in both material and labor.

An important feature is that tests have shown that such a wall can be built at less cost than frame construction, or other permanent construction. Yet the same appearance of construction is retained.

It is the aim of officers of the Association to have an actual demonstration of the construction of a wall under this new principle, if hotel accommodations will permit.

Complete program for the convention follows:

Monday, January 31

Registration at Convention Headquarters, Mezzanine floor.

At 3 P. M. meeting of Directors of C. B. M. A. of A. Completion of incorporation of the Association.

Tuesday, February 1. Joint Session 10 A. M. Sharp.

Opening address—William K. Hammond, New York. President N. B. M. A. and Vice President C. B. M. A. of A.

Address of Welcome—Mayor Hylan, New York.

Response—Wm. Schlake, Chicago, President C. B. M. A. of A.

Address—Allen E. Beals, The Dow Service New York, "Business Retrospect and Prospect."

Address—Miss Estella T. Weeks, Hoggson Bros., New York, "What the construction industry has meant in the past and what it is today."

Address—George W. Small, Literary Digest, New York, "A 250 Per Cent. Return on Advertising."

Other speakers contributed by the N. B. M. A.

Wednesday, February 2, 10 A. M. sharp

President's Annual Address—Wm. Schlake, Chicago, president C. B. M. A. of A.

Report of Treasurer—Ernest S. Barkwill, Cleveland.

Report of technical work—D. Knickerbacker Boyd, Philadelphia, F. A. I. A. and Structural Standardist.

Address—Wm. Burr, Ernst and Ernst, Cleveland, "Simplified Cost Accounting."

Report of Secretary-Manager, Ralph P. Stoddard, "The Net Results of Advertising" demonstration of new "Ideal Wall" and announcement of other association activities.

Naming of nomination committee.

12 o'clock noon.

N. B. M. A. session begins.

Thursday, February 3, 10 A. M. sharp

N. B. M. A. sessions.

12 noon.

Discussion—the tunnel kiln for common brick, led by C. H. Whitescarver, Williamson W. Va.

Discussion—The bricklayer and apprentice. Methods to improve the trade. Led by D. Knickerbacker Boyd, Philadelphia.

Reports—Stock on hand, orders, prospects by delegates from all districts of U. S.

Reports of committees.

Election of six directors.

Thursday 3 P. M.

Meeting of new Board of Directors for election of officers.

District Meetings.

Wednesday February 2, 3 P. M.

Joint District meeting Connecticut Brick Manufacturers' Association and Massachusettes Brick Manufacturers' Association.

Thursday 1 P. M.

Luncheon and regular February monthly meeting of Eastern Pennsylvania, Southern New Jersey and Delaware Brick Manufacturers' Association.

Banquet

Thursday evening, 6 o'clock, at Hotel Pennsylvania ball room.

A program of unusual merit.

Get tickets early, from Secretary at registration room.

Forest Hills

If a sufficient number express a desire to see Forest Hills on Friday afternoon, transportation will be arranged.

The Trunk Line, Central, Southwestern, and Western Passenger Associations have jointly offered reduced rates to those attending the conventions in New York. Persons in the territory embraced by these associations should apply for regular form of certificate (not an ordinary receipt for fare paid) and these when signed at the convention headquarters will entitle the holder to a reduced fare, returning.

For any one outside of the territory embraced by these associations, the best procedure is to purchase tickets to nearest junction point within the lines and there purchase and take a certificate for each full fare paid going.

PUTTING *the* KILN FIREMAN *on* BONUS

This Article Gives Method of Computing Standards of Efficiency—Distribution of Kiln Fireman's Time Figured in Hours and Minutes

By L. C. Hewitt

FOREMOST in our minds today is the question of wages and profits. Radical labor leaders demand that the workers, in any given occupation, be paid a set wage regardless of individual skill or effort—but fair minds have long recognized the fact that the most desirable basis of wage payment is that which gives to the worker a reward in direct proportion to accomplishment.

That such a method of wage payment could be applied to the firing of kilns, however, was not deemed possible until in recent years scientific plant management gave to American industry untold possibilities for the standardization of its work. The principle of this new science, as applied to labor standardization, is based upon time study. Briefly speaking, time study consists of analyzing a job, breaking it up into its component parts, determining the time necessary for the accomplishment of each element, and then combining the results; unnecessary movements are brought to light and methods at once suggest themselves for increasing the efficiency of the task. Intimately connected with this study is the standardization of equipment, as it reveals the fact that considerable saving in labor can be attained by rearrangement of tools and machinery. However, this phase of the subject will be but lightly touched upon in this article as the kiln fireman's tools are few and simple.

BASIS OF LABOR STANDARDIZATION

But what is to be gained by this so called time study and labor standardization? The answer is mutual benefits to employer and employe. The employe increases his earnings by receiving a bonus, while the employer increases his profits thru more efficient operation.

Turning to the method of putting the kiln fireman on bonus—let us first take a walk thru the factory; let us assume that we find the yard equipped with twelve kilns, six of which are of the round down-draft type and six of which are of the rectangular down-draft type, and that in respect to fire holes we find them classified as outlined in Table 1. It is concerning these facts of which we first wish to inform ourselves, since the labor required for firing a certain kiln is dependent upon the number of fire holes.

Now turning to the duties of the firemen, we find that they are divided into the following component labor operations:

1. Placing of kindling wood and coal in fire boxes preparatory to lighting.
2. Firing of kiln at stated intervals.
3. Cleaning of fires and removing ashes.
4. Miscellaneous—such as taking trials, temperature readings, daubing of crown holes, etc.

FACTORS CONSIDERED

Since it is evident that the work becomes heavier as the kiln gains in temperature and this condition at once gives us a basis for setting the Labor Standard, it is next necessary that we determine the relation between the labor operations and the progress of the kiln. Let us assume that the type of ware burned permits the kilns to be put under high fire at 72 hours, the burn being finished in 120 hours, and that the major operations of firing are tied in as outlined in Tables 2 and 3.

TABLE 1

Kiln Classification

Kiln No.	Kind of Kiln	Type of Grate	No. of Fire Holes
A	Round	Flat	8
B	Round	Flat	8
C	Round	Flat	8
D	Round	Flat	9
E	Round	Flat	10
F	Round	Flat	10
G	Rectang.	Flat	18
H	Rectang.	Flat	20
I	Rectang.	Flat	22
J	Rectang.	Inclined	22
K	Rectang.	Inclined	22
L	Rectang.	Inclined	18

..[1] Note:—The types of kilns and conditions named in this article are purely hypothetical—being used merely to illustrate the case.

TABLE 2

Labor Operations Per Stage of Burn—Flat Grates

Shift	Hours Under Fire	Temp. F.	No. Times Fired	Frequency and Kind of Cleaning	No. Loads Ashes per Fire Hole
1st Night	12	160	5	"Shaking	
Day	24	250	6	bars	
2nd Night	36	500	8	Slightly"	
Day	48	800	12	Use hook once	.7
3rd Night	60	1150	12	Use hook once	.6
Day	72	1400	12	Use spade once	1.0
4th Night	84	1600	12	Use spade twice	1.4
Day	96	1800	12	Use spade twice	1.4
5th Night	108	2000	12	Use spade twice	1.4
Day	120	2150	12	Use spade twice	1.4

Thus far we have analyzed the job and broken it up into its component parts. Our next step is to take the stop watch and determine the time necessary for the completion of each element of the task, which we may find to be as shown in Table 4.

We can now combine the results given in Tables 1 to 4, since we have the main facts necessary for determining the Labor Standard. For instance, if we wish to know the time required for firing one flat grate during any one shift—we need only to multiply the time required for one fire by the total number of fires made; the time required for firing one flat grate during the fourth day, is found by multiplying 2 (See Table 4) by 12 (See Table 2). Likewise we find that the time for cleaning fires on this day is 16 minutes and that removing ashes takes 12 minutes. By applying this method thruout the burn, we obtain the results shown in Tables 5 and 6.

TABLE 3

Labor Operations Per Stage of Burn—Inclined Grates

Shift	Hours Under Fire	Temp. F.	No. Times Fired	Frequency and Kind of Cleaning	No. Loads Ashes per Fire Hole
1st Night	12	160	5	"Shaking bars Slightly"	
Day	24	250	6		
2nd Night	36	500	8		
Day	48	800	12	Use bar once	.5
3rd Night	60	1150	12	Use bar twice	.4
Day	72	1400	12	Use bar 3 times	.7
4th Night	84	1600	12	Use bar 3 times	.9
Day	96	1800	12	Use bar 3 times	.9
5th Night	108	2000	12	Use bar 3 times	.9
Day	120	2150	12	Use bar 3 times	.9

To permit a 50 per cent. fatigue allowance, it will be noted that the total man minutes shown for any one shift has been multiplied by 2. This allowance is purely assumed for this particular case, as no arbitrary figure can be set to cover all plants, but as kiln firing is very heavy and hot work, a considerable period of rest must be allowed if the men are not to be overtaxed. This fatigue allowance also covers such miscellaneous duties as daubing crown hole covers, taking trials, etc.

TABLE 4

Elementary Time Studies

"Base—one fire hole—Time given in minutes for each occurrence of firing or cleaning."

Shift	Flat Grates		Inclined Grates		Removing Ashes
	Firing	Cleaning	Firing	Cleaning	
1st Night	1.0		.8		
Day	1.0		.8		
2nd Night	1.0		.8		
Day	1.0	5.0	.8	4.0	8.5 Minutes per Load
3rd Night	1.0	5.0	.8	4.0	
Day	1.5	6.5	1.3	7.0	
4th Night	2.0	8.0	1.8	10.0	
Day	2.0	8.0	1.8	10.0	
5th Night	2.0	8.0	1.8	10.0	
Day	2.0	8.0	1.8	10.0	

Our next process is to apply the standards obtained for each type of grate to each class of kiln. This procedure is outlined in Table 7.

TABLE 5

Combination of Time Studies—Flat Grates

"Time in minutes—base one fire hole"

Shift	Hrs. Under Fire	Temp. F.	Time For Firing	Time For Cln'g Fires	Time For Rem'g Ashes	Total Man Minutes Req'd	Total Man Minutes Req'dx2
1st Night	12	160	5.0			5.0	10
Day	24	250	6.0			6.0	12
2nd Night	36	500	8.0			8.0	16
Day	48	800	12.0	5.0	6.0	23.0	46
3rd Night	60	1150	12.0	5.0	5.0	22.0	44
Day	72	1400	18.0	6.5	8.5	33.0	66
4th Night	84	1600	24.0	16.0	12.0	52.0	104
Day	96	1800	24.0	16.0	12.0	52.0	104
5th Night	108	2000	24.0	16.0	12.0	52.0	104
Day	120	2150	24.0	16.0	12.0	52.0	104

In order to make the scheme as simple as possible, standards have been set to cover as wide a range of the burn as the circumstances permit. (See right hand column Table 7). The Labor Standard for an 8 fire hole kiln with flat grates—is then 2 man hours from start of burn to 500 deg., 6 man hours from 500 to 1150 deg., 9 man hours from 1150 to 1400 deg. and 14 man hours from 1400 deg. to finish of burn.

By applying this method to the various kilns listed in Table 1 we obtain the standards shown in Table 8.

It will be noted that in a number of instances the standards call for as low as 2 man hours or 1/6 of a man. But how can we dispense with the services of part of a man? This of course cannot be done—but the standards adjust themselves when there are a number of kilns on fire. If kiln D was in the 2nd stage and kiln H was in the 1st stage, the total standard man hours would be twelve, or one man. There would be times undoubtedly when the standard would not call for an even number of men, but the scheme works out very well on an average. If the total standard of all kilns on fire called for 23 man hours, 2 men would necessarily be needed, while again if the standard called for 25 man hours, two men could still do the work and would then be over 100 per cent. efficient. It is a give and take proposition.

TABLE 6

Combination of Time Studies—Inclined Grates

"Time in minutes—base one fire hole"

Shift	Hrs. Under Fire	Temp. F.	Time For Firing	Time For Cln'g Fires	Time For Rem'g Ashes	Total Man Minutes Req'd	Total Man Minutes Req'dx2
1st Night	12	160	4.0			4.0	8
Day	24	250	5.0			5.0	10
2nd Night	36	500	6.5			6.5	13
Day	48	800	9.5	4.0	4.0	17.5	35
3rd Night	60	1150	9.5	8.0	3.5	21.0	42
Day	72	1400	15.0	21.0	6.0	42.5	42
4th Night	84	1600	21.5	30.0	7.5	59.0	118
Day	96	1800	21.5	30.5	7.5	59.0	118
5th Night	108	2000	21.5	30.0	7.5	59.0	118
Day	120	2150	21.5	30.0	7.5	59.0	118

TABLE 7

Application of Combined Time Studies for one Flat Grate, to an 8 Flat Grate Fire Hole, Round Kiln. (NO's.—A, B and C.—See Table 1)

Shift	Hours Under Fire	Temp. Deg. Fahr.	Man Min.* Req'd Including Fatigue	Man Min. Reduced to Man Hours	Standard No. Man Hours Selected
1st Night	12	160	80	1.3	2
Day	24	250	96	1.6	2
2nd Night	36	500	128	2.1	2
Day	48	800	368	6.1	6
3rd Night	60	1150	352	5.8	6
Day	72	1400	528	8.8	9
4th Night	84	1600	832	13.8	14
Day	96	1800	832	13.8	14
5th Night	108	2000	832	13.8	14
Day	120	2150	832	13.8	14

*Found by multiplying the minutes set for one fire hole (Right hand column, Table 5) by 8—the total number of fire holes.

STANDARDS ONCE SET SHOULD NOT BE CHANGED

Standards set as above can be applied to other burning schedules than the one from which the standards were deduced; i. e., if on account of wet tile, it was not safe to reach 500 degrees until after 48 hours had elapsed instead of 36 we would still use the labor standards for the range 0—500 deg.

TABLE 8

Standard Man Hours per 12 Hour Shift—Per Stage of Fire

Kiln Numbers	Temperature Range				Standard Man Hrs. For Lighting*
	0-500	500-1150	1150-1400	1400-Fin.	
A-B-C	2.0	6.0	9.0	14.0	2.0
D	2.0	7.0	10.0	15.5	2.5
E-F	2.5	7.5	11.0	17.5	3.0
G	4.0	13.5	20.0	31.0	5.0
H	5.0	15.0	22.0	35.0	6.0
I	4.5	16.5	24.0	38.0	7.0
J-K	4.0	14.0	31.5	43.0	7.0
L	3.0	11.5	25.5	35.5	5.0

*Determined from actual time study.

It is to be remembered, however, that the success of the bonus scheme as a whole, is necessarily dependent upon the correctness of the standards set—which correctness is in turn, dependent upon the man who sets the standards. This man, who must be thoroly grounded in the fundamentals of time study, should be capable of judging in his own mind whether the worker, whom he is timing, is doing a "fair day's work." Obviously, we would not set standards based upon the movements of the most efficient worker in the crew, any more than we would set standards based upon the least efficient; neither would we attempt to set the standard time for a given task until we had repeatedly timed the operation and assured ourselves that no stone had been left unturned in arriving at our conclusions. If the bonus system is to retain the mutual respect of company and men—standards once set should never be changed unless conditions are changed—therefore the importance of correct standards.

Turning again to the calculation; since we have now established a standard labor schedule how shall the firemen be rewarded for attaining this standard? We might base their premium on either a 10, 15 or 20 per cent. bonus curve, depending upon the attendant circumstances. Let us select the 15 per cent. curve as the standard in this particular instance.

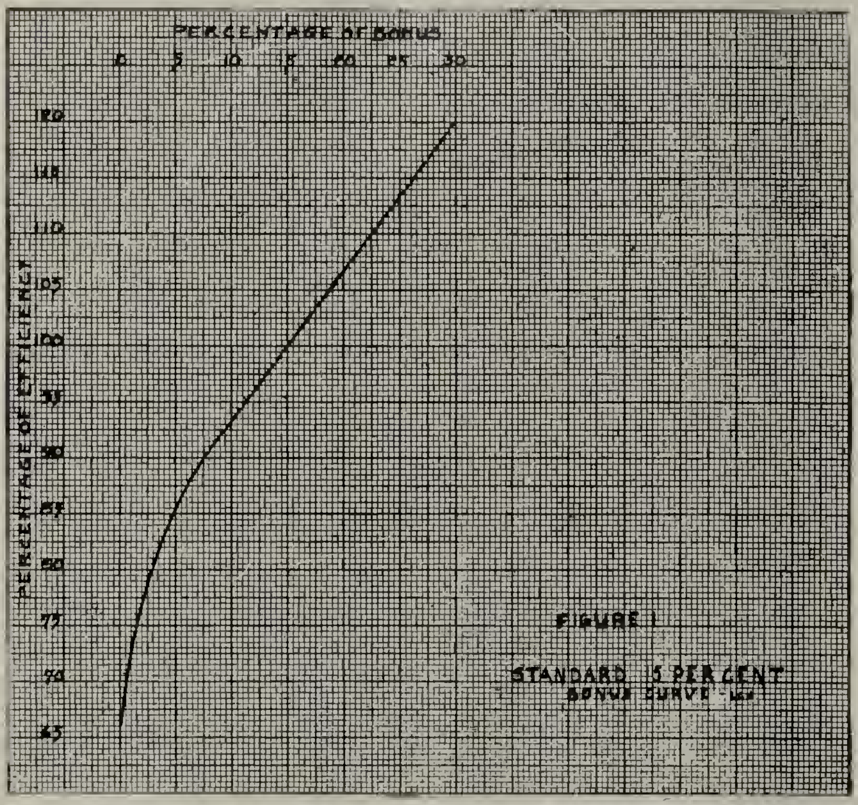


Fig. 1. Showing Amount of Bonus Earned According to Various Percentages of Efficiency

On this basis then each fireman will receive 15 per cent. additional wages for obtaining standard or being 100 per cent. efficient. If only 90 per cent. efficiency is attained the bonus would come to 7.5 per cent. A comparison between various efficiencies and bonus reward is shown in Figure 1.

HOW COMPANY GAINS

The above procedure takes care of the fireman—he can increase his earnings 15 per cent. without undue exertion—but how about the company? Experience has shown that on most unstandardized work, labor efficiency approximates 70 per cent. On this basis then, to reach standard—the firing force must consist of 7 men where there were ten—or in other words the force must be cut 30 per cent. The company then will accordingly reduce its gross labor bill for firing 30 per cent., paying out 70c where it spent $1 before. As against this saving of 30 per cent., the company must pay a bonus of 15 per cent. on each 70c paid for labor, or 10.5c. The total labor bill will then be 80.5c instead of $1, and the company will have realized a net saving of 19.5 per cent.

It is also desirable in connection with the labor bonus to pay the firemen an additional bonus for attaining standards set on burning time, coal consumption and quality of product. We then have an ideal method for basis of payment—the reward is in proportion to accomplishment—the fireman has been set up in business for himself, as his interests are identical with that of the company—namely to produce the highest quality ware, burned in the shortest time, with the least amount of coal and with the least amount of labor possible.

* * *

Review of Canadian Building Situation

In referring to conditions in the brick business in Canada, F. B. McFarren, manager of the Interprovincial Brick Co. Ltd., Toronto, said:

"In the year 1920, brick manufacturers as a whole, we think, experienced an excellent demand for their products until September. Many plants experienced difficulty, during the first half of the year, in obtaining coal for brick-burning purposes and this curtailed the production to such an extent that it was impossible to keep up with the demand, and the price of coal, of course, became very high.

"In September the combined effects of increased freight rates, which were particularly noticeable in the brick business owing to the nature of the material, the difficulty in obtaining building loans and the anticipation of lower prices, caused a marked falling off of business in all lines. This has probably been effective in increasing the efficiency of labor and caused, to some extent, at least, the elimination of fictitious prices for coal.

"While most of our competitors are either closed down or running only to partial capacity, we feel so confident of the future of this industry that we are operating our plant to capacity without reducing wages, altho the demand at present is extremely light and some wage adjustment may be necessary in order to continue to operate.

"While prices have advanced during the past year to some extent, we do not anticipate a very marked reduction in price unless brick manufacturers are able to operate their plants at capacity, when it will be possible to take full advantage of the reduced cost of fuel combined with a reduced percentage of overhead expenses. This should mean a slight reduction of price at the factory, but the increased freight rates will counteract this reduction almost entirely. Brick, however, has not increased in price to such an extent as most other materials, and it is still possible to obtain this material at prices which should not seriously retard building operations. We feel sure that the coming season will be one of the most prosperous seasons we have ever experienced in the building trade.

"While there has been no marked reduction in wages in the building trades, there has been a most marked increase in the amount of work done per man. As labor costs have been the biggest items in increasing the cost of building, due to the combination of high wages and the small amount of work performed, and the insufficient number of men available, we feel that the increased number of men available for construction industries and the increased amount of work done by each man will probably be the greatest factor in stabilizing and reducing the cost of construction.

* * *

More Building in 1919 Than 1920

In a review of building operations in 1920 and forecasting for 1921, F. W. Dodge Co. states that the amount of money involved in construction contracts during 1920 in twenty-five northeastern states was practically the same as in 1919. On account of greatly increased construction costs, this amount of money, something over $2,500,000,000 paid for a volume of construction nearly one-fourth less in 1920 than in 1919. In regard to 1921 the statement says that the construction enters a new year under conditions very similar to those prevailing at the opening of the year 1919.

* * *

Selects Same Meeting Place as C. B. M. A.

At the last regular meeting of the Brick Manufacturers' Association of Eastern Pennsylvania, Southern New Jersey and Delaware, it was decided to hold the February meeting of the association on Thursday, February 3 at the Hotel Pennsylvania, New York City. At this time the Common Brick Manufacturers' Association of America and the National Brick Manufacturers' Association will be in convention at the same hotel. A large attendance is expected.

Indiana Paving Brick Men Fighting Anti-Brick Propaganda

What promises to be an exciting development with the clay industry on one side and the cement industry on the other, is to be seen in the vigorous objection to the new road specifications of the state highway department, which call for a leaner mixture of cement in concrete roads. Robert M. McKinley, chief engineer of the Indiana Paving Brick Manufacturers' Association, has issued a public statement which was given prominence in the two largest newspapers in Indiana, in which he assailed the action of the commission in no uncertain terms.

In his statement, Mr. McKinley states that "the story published in Indianapolis newspapers relative to the new specifications, which are to be issued by the road department, sounded much more like it had emanated from the office of the cement association than from the Indiana state highway commission. The evident prejudice of the road department in favor of cement or cement-concrete roads is too well known to excite any further comment, but some figures which were credited to the highway department were so deceptive that I believe the public should know the facts." He alleges that the figures given out, showing the average mile cost on more than $2,000,000 worth of work, estimated only the cost of the concrete slab and did not cover the cost of grading, excavating and filling.

He continued, after giving the contract figures on several roads: "Without entering into the merits of the various types of construction, I can say upon the best authority that road engineers generally are turning to the macadam base instead of the cement-concrete foundation. It is coming to be the belief that the resilience of such a base greatly increases the life of the road.

"Indiana has hundreds of miles of fine old gravel and macadam roads. Many of these roads have been in service for fifty years or longer and each year a new material has been added and compacted under the traffic. Nothing could furnish as fine a foundation for brick roads as these old, well-compacted highways. It has come to be a general practice thruout the country to utilize these priceless old roads as bases for hard surface construction. To tear them up where they will serve this purpose is not only sheer waste, but poor engineering.

"In this connection, I will say that these hard macadam and gravel roads are being resurfaced with the very best results at a minimum cost by using brick and asphaltic surfacing. In the construction of concrete roads, however, it is necessary to tear up these fine old roads and throw away all of the material that has been put down and so well compacted by years of traffic.

"The above facts have been known to every road man in Indiana for some time, but naturally they have hesitated to bring what may seem to be a trade war to the attention of the public. However, the public is paying the bill and is expending millions of dollars in building roads which will be at best, experiments."

* * *

Move to Reduce Wages in Pittsburgh

The first actual step of its kind toward a reduction of labor prices in the building industry in any large city of the country, was affected when representatives of three of the seventeen unions in the building trades in the Pittsburgh district were asked by building contractors to voluntarily agree to reductions in wages, as a means, with expected reductions in the prices of materials, of stimulating building, especially of much needed homes, this spring and summer in and about Pittsburgh.

The seventeen building trades unions comprise about 15,000 skilled craftsmen, who are among the best paid and most solidly organized workmen in this territory. Representatives of the bricklayers, 1,200 men receiving $1.50 an hour, and of the hoisting engineers and cement finishers, 125 men in each union and both receiving $1.12½ an hour, were met by the brick contractors and by a committee of the Building Construction Employers' Association, at the Builders' Exchange. Other crafts will be met later.

Whether any reduction is to be accepted and, if so, the amount, is put up to the building trades themselves. No amount of reduction was suggested by the contractors.

The membership of the three unions, representatives agreed, will be informed of the result of the meeting, and the question of voluntarily cutting their own wages will be put squarely up to the rank and file. The bricklayers' representatives agreed to report back to the brick contractors at a meeting February 9, and the other two will report back around the first of the month. The same proposition is to be put up to other unions in the building trade in the near future, in most cases thru the individual contractors' associations in the different crafts.

Wages in the building trades, doubled since the war, range from 85 cents an hour, which is paid building laborers, to $1.50 an hour, the bricklayers' scale.

S. P. Trimble, heading the committee for the brick contractors and the Building Construction Employers' Association, with other members of the committees, put up much the same argument to the committees representing the unions. The union representatives were met separately.

In the arguments of the contractors, the present so-called "buyers' strike" was featured, the contractors declaring this strike shows the buyers will not buy until prices of commodities come down materially and that, similarly, no great amount of building will be done at present high costs; that prices of commodities are beginning to come down and that building costs must.

* * *

Architects Discuss Terra Cotta Possibilities

W. D. Gates, president of the American Terra Cotta and Ceramic Co., of Chicago, Ill., also president of the Indianapolis (Ind.) Terra Cotta Co., and A. H. Sheffield, secretary of the Chicago manufacturing company, were speakers at the meeting of the Architectural League of Indianapolis at the John Herron Art Institute recently. "The Use of Terra Cotta in Modern Architecture," was the subject. Mr. Gates, dwelling upon the ethical side, talked of what has been done and what can be accomplished in the future by manufacturers and architects working in accord, the one stimulating the other to greater endeavor.

Mr. Sheffield emphasized the utilitarian side, as well as the truistic in which he predicted more satisfactory results if the architects give greater attention to organizing their workers and looking after their craftsmen and, in the use of terra cotta, striving to bring out its characteristic beauty instead of putting it into their architectural designs as imitation stone.

An interesting discussion followed, centered chiefly on the use of colored terra cotta for structural use in buildings. R. F. Daggett, president of the league, said that Indianapolis is perhaps the most backward of any large city in the country in the use of this characteristically American product, chiefly because the glazed material has not been readily available here and also because the colored terra cotta changes so rapidly in appearance under the smoky atmospheric conditions and architects have not time to experiment with it.

A PENNY SPENT *is* A DOLLAR EARNED

Practical Suggestions for Keeping Track of Costs and Eliminating Lost Motion in Handling Clay Products—Accurate Records Mean More Careful Work by Men

By G. W. Greenwood

Treasurer, United Refractories Co., Uniontown, Pa.

"OUR CHIEF isn't much for looks," admitted Barnes to Chapman, the auditor for the compensation insurance company. They had finished auditing the pay rolls and computing the premium for the previous year and were leaning back discussing sundry unrelated topics, during the course of which Chapman had stated that the general manager must have been a mighty pretty baby.

"He is big and rugged, and his features look as tho they had been blasted from a block of granite by a charge of T. N. T. We have a good one on Baldwin, our sales manager. A stranger mistook the general manager for Baldwin, and when the chief heard it he said: 'For goodness sake, don't tell Baldwin that. He's too vain of his beauty already!' Baldwin is still considerably fussed about it. But the G. M. is on the job all right. Each day he knows how many hours each plant was in operation the day before, and the cause of any lost time. And he knows what an hour lost means in dollars and cents, too."

"That is a good idea, Barnes. In my perambulations I run across executives who have heart trouble if they see a cost clerk idle for an hour, but an expensive machine, or a brick kiln, can stand idle for a week and they never notice it. A hack of brick can stand in the stock shed for a month of Sundays and they never consider that these inanimate objects are on the pay roll and drawing a salary just as surely as is the humblest stock clerk."

EACH MACHINE HAS REQUIRED OUT-PUT

"Another thing along the same line," said Barnes, appropriating Chapman's pencil, "is the amount of brick turned out in each hour. He has established standards of output for each machine in every plant, and when this is exceeded, he has the gain figured out in dollars and cents flat. Not in cents per thousand. And he makes it of interest to the men in charge to beat the standard output that has been set."

"That's the only way to get after it," agreed Chapman. "Now in some plants and offices which I visit, I find they do not know what their costs have been until two or three months afterwards. Sort of a post mortem."

"Trouble with post mortems is that the patient rarely profits by them."

"Hardly. But the trouble with such business autopsies is that the physician does not profit much by them either, compared with what he should get out of the compilation of figures. An X-ray moving picture of an organ in actual operation is more instructive than past history, and of more benefit to the victim as well. But pardon this digression and proceed with your catalog of the G. M.'s virtues."

"Glad to accommodate you, I'm sure," retorted Barnes with mock courtesy; "in addition to knowing the hours run, and the output, and why, he also knows the cost. And this, too, he compares with the standard. This he gets daily, so he can strike while the brick are wet."

"He is sure of making a deeper impression," interposed Chapman.

KEEPING RECORD MAKES MEN CAREFUL

"And when it comes to setting, he gets the amount contained by each kiln in nine-inch equivalent, when it is ready to be fired. And if the contents are low, he finds out why. You see, by this means he gets enough brick burned annually at no cost for firing, to pay a good dividend on the cost of keeping such records. As soon as each kiln is burned off, he knows how many days and hours it was burning and can inquire into any marked increase in the time taken. Where practicable he knows the amount of coal consumed for each kiln. And when the kiln is empty, he knows jus how many brick and shapes were drawn from it, how many were lost, and how many were reset. The foreman in charge of the setting is not going to put a lot of fragile brick in the lower courses of a kiln if he knows that their loss will be looked into before many days."

"I find in my travels," said Chapman, rocking back and forth on the hind legs of his chair, with his hands clasped behind his head, "that most executives object to the expense for office help, keeping track of such details. Evidently you folks find it profitable or you wouldn't take the time to work it up. How about it?"

"Too many people can only appreciate expenses, like salaries, for which they write a check. It doesn't take many thousands of brick lost in burning during the month to pay a good office force. A man once was telling how cheaply he could make coke, and produced his figures to prove his statement. When his attention was called to his failure to include any depletion charge for the coal used, he said he didn't need to, because the coal was all paid for. If the superintendent had to write out a check in payment for the brick broken in various stages, he would appreciate his losses sufficiently to put a stop to them, so far as humanly possible.

COST FIGURES SHOW VALUE OF BRICK LOST

"And that is another thing the G. M. does; he figures the loss in burning, not merely as so many thousands of brick, but as so many dollars, using cost figures up to that stage. It makes one sit up and take notice to be told that if those brick could have been loaded into a car, instead of going to the bat pile, it would have made a difference of three hundred dollars.

"Another thing; as each kiln is unloaded, Baldwin and the foreman in charge of the drawing and loading go over the records, matching the contents against the orders, so that the amount of rehandling is about cut in half, with a consequent reduction in the size of the burned brick gang. The destination of each car of brick in a kiln should be predetermined before the unloading starts."

"Precious little help the operating department gets from the sales end in most plants. Generally all they hear is repeated S. O. S. calls to get out certain orders, tho they may have to rehandle half a kiln to do so. But do you keep the same track of brick after they go into stock?"

Barnes nodded. "We have a perpetual inventory, and the G. M. goes over it monthly, noting the losses and the rate of turnover. A hack of slow-moving stock is just so much money tied up. And the same is true of a kiln of green brick which stands a few days without being fired. In fact, the G. M. seems to be ubiquitous. He gets reports of complaints and sees that the customer is satisfied with the adjustment. He looks thru copies of outgoing letters from time to time to see how they are likely to react on the recipient. He knows what lines are more profitable and so far as possible we are never out of these items. He backs up the purchasing department and has it properly informed by means of monthly inventories and stock clerk's reports. He says that a good stock of raw material and spare repair parts is of more importance to us than is a good stock of our own brick. Concerning brick he feels like the shoe salesman who advertised, 'These shoes will look better on your feet than on our hands.'"

"Where does he get all these ideas, I'd like to know?" asked Chapman.

"He reads the trade papers. And he sees that all the rest of us read them, too."

* * *

Coal Operators Find Market Quiet

In a review of market conditions of coal, the "Black Diamond" states that the demand for all grades of coal during the holidays was practically lacking. The demand for coal has slackened off to such an extent that cancellations of contracts are quite noticeable among the large users of coal.

Eastern bituminous coal is flowing into the market in ever increasing quantity so that contract users of these products are receiving 100 per cent. delivery. Smokeless coal, almost a stranger during the summer months, has become plentiful enough so that sales were made at $5 to $5.50. As for Pennsylvania and Maryland smokeless, they are practically drugs on the market, a few sales being made at from $3.75 to $4 a ton for prepared sizes. Sales of prepared Eastern Kentucky coal were made during the week at $5.50, these being considered favorable transactions under present conditions.

Prices for the various fields, follow:

Southern Illinois, including Saline, Franklin and Williamson County spot coal, domestic sizes, $4.50 to $5; mine run, $3.25 to $4.50; screenings, $2.25 to $3.25, with but small tonnage moving on the open market; domestic sizes moving at circular, $4.15 to $5; steam sizes on contract, $3 to $4.25.

Indiana fields, free coal, prepared sizes, $4 to $4.50; mine run $2.25 to $3; screenings, $1.25 to $2.50; on contract, domestic sizes, $3.75 to $5; mine run, $3.50 to $3.75; screenings, $3.25 to $3.75.

Central Illinois, spot quotations, domestic sizes, $3 to $4; mine run, $2.25 to $3; screenings, $1.50 to $2.50; on contract, domestic sizes, $3.50 to $4; mine run, $3.50 to $4; screenings $3 to $3.50.

Peoria district, spot prices, prepared sizes, $4 to $5; mine run $2.75; screenings $2 to $2.50; on contract, prepared sizes, $2.75 to $4; mine run $3.25 to $3.50; screenings $2.75 to $2.85.

Spring Valley, free coal, six-inch chunks, $5.25; on contract, $4.50; washed inch and a quarter screenings, on contract $3.85.

* * *

"Red Group" of A. F. B. A. Meets in Columbus

The Red Group of the American Face Brick Manufacturers' Association met in regular session at the Deshler Hotel, Columbus, Ohio, January 12, with a large attendance. F. A. Hoiles, of Alliance, Ohio, is chairman of the group. Prospects for the coming building season were discussed at length and a large majority of those present were optimistic and believed that 1921 would be a fairly good construction year.

* * *

Increase in Building Augurs Well for 1921

Building activity in states east of the Missouri and north of the Ohio rivers is showing unmistakable signs of increase. The F. W. Dodge Co. construction reports for the week ending January 7 show the amount of building contracts awarded in the territory mentioned above to be $35,890,000. This is more than double the amount for the preceding week which the company's reports show to be $14,920,000.

* * *

Highway Engineering Course at U. of M.

University of Michigan offers graduate short period courses in highway engineering and highway transport leading to the Master of Science degree. Each of these courses is given in a period of two weeks and consists of thirty lecture hours in the afternoon periods while the mornings are devoted to library research work. A man may take one course or any group of courses desired, depending upon the length of time he can stay.

* * *

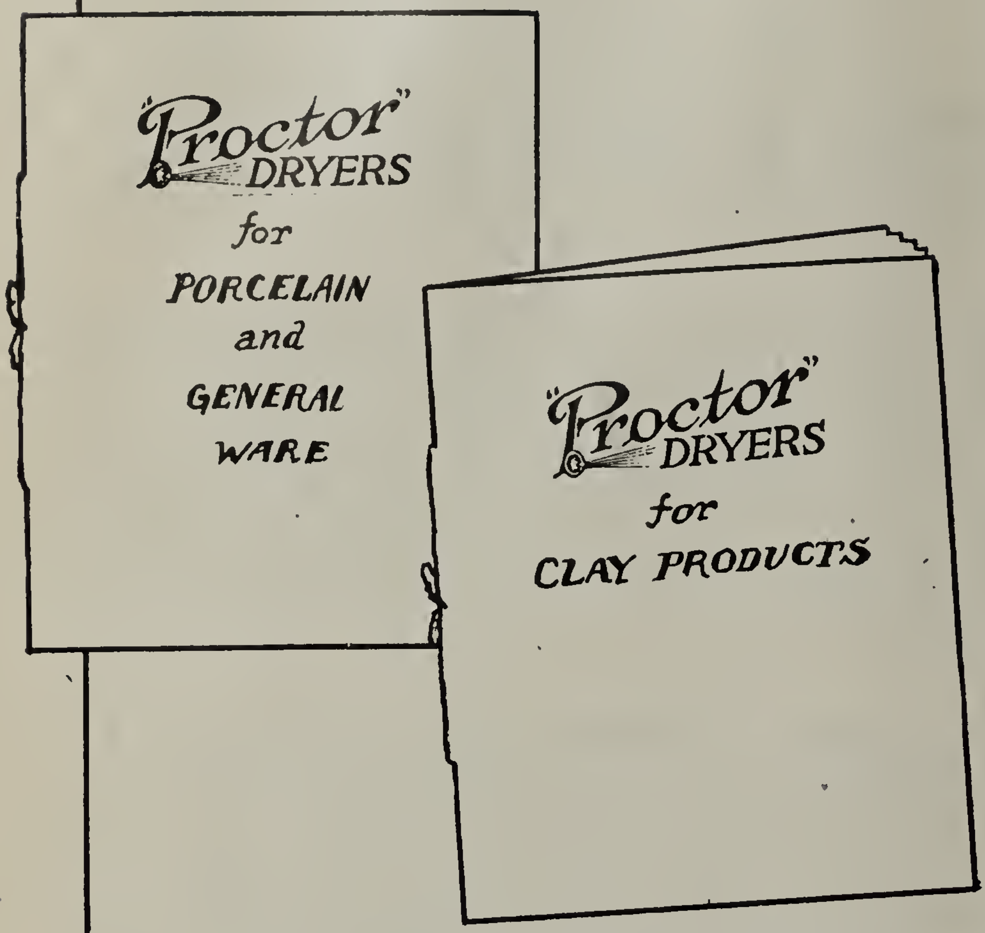
Carbonaceous Rock Often Sold as Coal

"Coal that will burn" has been taken from many coal prospects in eastern Idaho, yet what was thought to be coal is not coal at all but phosphate rock which contains so much carbonaceous matter that it closely resembles coal. This rock has been squeezed in some places by earth movements and is black and shiny. On distillation it yields a small quantity of oil. Other coal prospects in eastern Idaho are in carbonaceous shale or in poor coal that has little if any commercial value.

There are, however, two districts in the State that yield coal of good quality. One of these, the Horseshoe district, on the west side of the Teton Basin, in Teton County, has produced small quantities of coal, which have been used chiefly to supply local demand.

The quantity of marketable lump coal available will probably not justify development on a large scale.

The other coal district is in Clark County, on the Continental Divide, at the head of Cottonwood Creek. Here a 32-inch bed of good coal has been found, but the area in which it crops out is not large and it is so far from lines of transportation and a suitable market that its early exploitation is doubtful.



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"Proctor" DRYERS

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Page Thirty-nine

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ly used for four jiggermen with the old t
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and do the finishing. The moulds are the
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The BUILDING SITUATION *in the* EAST

THE TURN of the year has brought a far more encouraging tone in building circles in the eastern district, not so much with respect to immediate operations, for these, a is to be expected, are at low ebb, but rather with regard to the spring outlook. It is this period of 1921, just a little more than two months hence, that will show definitely what the year is to hold for the burned clay producer, the dealer, building contractor and others in the industry.

Engineers and architects are good barometers—if they are busy on future work it is a sure thing that something is coming along, even tho the exact time is uncertain. Such offices in the metropolitan districts, in and around New York, are commencing to show signs of activity, and a survey of the information received at different offices indicates that with the coming of spring there will be some interesting developments in the construction field. It looks as tho the initial work will embrace, for the most part, repair and alteration jobs, but many of sizable character; later, will come some very important projects, dependent only in time on the stability of the material market. This factor assured, both as regards labor and supplies, and there is going to be full steam ahead.

New England: The year 1920 proved rather a banner one in construction operations in New England, with total contracts placed in twelve months totaling over $304,300,000—a record year so far as figures show back to 1911. The previous twelve months produced a total of $247,232,000 in contracts awarded, and which, in itself, was a "peak" year. Before that, the highest year on record was 1916, wi figures showing an aggregate of $209,100,000.

CONSTRUCTION SHOWING SIGNS OF LIFE

So, with the year just closed standing about $57,000,0 above any other year in this section, brick producers and material men hereabouts have no great "kick" coming. The result is all the more remarkable when one considers the slump which took place in the fall, and evidenced now, for i shows just how busy many in the trade were during the high-water periods of spring and summer.

There is noticeably increasing activity in different parts of this district at the present time, particularly in the vicinity of Boston, where things are opening up in an encouragin fashion. A good number of building permits are being issue with alteration and minor extension work the prevailing tendency. At the same time, this volume of work is bringing a fair call for materials, and not such a bad call, incidentally, when the season of the year is considered. A new three-story, brick municipal building is now being constructed at Central Avenue and River Street, Hyde Park Boston, to cost about $350,000; it will be 88 by 149 feet. Another interesting project in this city is the new two-story brick factory being erected by the John West Thread Co., in the southern section, to cost about $100,000.

New York brick is now being quoted at $28 per thousand by local material dealers in the Boston market. Connecticut production is on sale at $32, delivered. Face brick, water struck, kiln run is selling for $50 and texture varieties at $60. Fire clay is fetching $30 a ton, delivered. No. 1 fire brick is quoted at $90, while particularly high-grade material is selling for $100. There is a good call for fire brick hereabouts at the present time. Terra cotta partition blocks, 4 by 12 inches, are $200 per thousand, while 8 by 12-inch size are $38, delivered.

PROVIDENCE, R. I., BRICK PRICES

At Providence, R. I., building material dealers are asking from $38 to $40 a thousand for common brick, delivered, while fire brick is selling here from $90.50 to $110 a thousand. Partition tile is selling for $250 per thousand for 4 by 12 by 12-inch size, and $450 for 8 by 12-inch. Flue lining, 8½ by 8½ is quoted at 48 cents per foot, and 8½ by 13-inch at 72 cents. Vitrified paving block is bringing $52 per thousand.

In the vicinity of New Haven, Conn., a number of brick manufacturers have announced a 10 per cent. reduction in the price of common brick, effective at once, bringing the figure from $30 to $27, delivered. Among the different companies are the I. L. Stiles Co., Montowese Brick Co., the Davis Brick Co., Cody Brick Co., and the New Haven Brick Co. The decrease is being made in an effort to follow the lead taken by lumber, cement and other materials, and stimulate building to the greatest extent. While there is no reduction in wage scale, as yet, for bricklayers and hod carriers, it seems only a question of time when a decrease will be enforced. Common labor is decidedly easy to find and men are seeking jobs at from 50 to 75 per cent. below the prevailing schedules during the war period.

JULY BIGGEST MONTH IN 1920 BUILDING

New York: Construction operations in New York for 1920 reached a total valuation of $96,199,860 for Manhattan Borough, as against $72,283,061 in the previous year. In the 1920 period, plans were filed for 783 new buildings, as compared with a total of 370 structures in 1919. The peak of the year was reached during the summer, and the biggest month, July, when plans for 141 new buildings were approved by the department. The alteration and improvement operations last year aggregated $42,999,703 in valuation, which amount is in addition to the figures noted, making a grand total of $139,199,563 as the year's construction record. Considering the drop in operations at the end of the year, this, even for the country's metropolis, is not a bad record, with many millions to be added for building work in the other boroughs. The greatest number of alteration jobs included 1,380 dwellings at a total cost of $11,050,000, while the largest individual amount is covered by 414 office buildings, with an outlay of $13,498,840.

There is a quickening aspect to the building situation in New York at the present time, and considerable work is in view for early decision. Apartment house operations are taking a prominent position in this line, with work to involve appreciable sums. Architects Warren & Wetmore, 16 East Forty-seventh Street, are preparing plans for a new fourteen-story apartment building to be located on West End Avenue, estimated to cost about $450,000; the Esther Realty Co., 790 Riverside Drive, is taking bids for a new five-story brick and lime stone apartment house to be erected at 505-507 West 161st Street, at an estimated cost of $120,000. A number of new theaters are also being projected, as well as offices and store and loft buildings.

NEW YORK PRICES HOLD FIRM

The New York brick market is rather sluggish. While there are a few inquiries, these are rather of random nature, and like the material market, itself, lacking desired stability. Despite this condition prices continue to hold firm, and the $16 to $18 level, wholesale, alongside dock, is now well established. Second-hand brick is selling for $36 per load of 5,000. The middle of the month shows over fifty cargoes of common brick from Hudson River points remaining unsold in the New York market, and with available stocks at the yards up the river there is certainly no fear of any shortage of material at the present time. While the Hudson River is still open to navigation, the arrivals are growing noticeably less, and no tows are coming down from points north of Newburgh. From this latter point, however, and the big Haverstraw district, it is likely that brick will be shipped so long as the river is navigable to New York, for producers are evidently anxious to relieve reserve stocks at the yards to a point of making possible immediate sales for the forthcoming spring season.

Face brick shows no change in prices at New York, $50 and $60 brick is the popular call, with prime selections obtainable at the higher figures. Rough reds are selling from $45 upwards, while rough and smooth buffs are bringing on an average of $50; Colonials are being turned at $45. Interior partition tile is selling for $230 per thousand for the 2 by 12 by 12-inch and 3 by 12-inch sizes, while the 4 by 12-inch tiles are bringing $260, delivered, and 5 by 12 by 12-inch, $350. Fire brick is around the $85 and $90 level, and operating under fair call.

HOME BUILDING LESS ACTIVE IN 1920

New Jersey: All building records at Newark, N. J., were broken by the totals for the year 1920. The volume of work in this time reached $20,564,720, as against $20,233,976 in the preceding year. The figures for 1918 are far in the background, standing at $5,336,033. A rather distressing factor in the situation, however, is the recession in housing operations, frequently mentioned in former issues of *Brick and Clay Record*. During the year just passed the outlay in this line was $2,260,800 for 251 dwellings, designed to accommodate 348 families, while in 1919, plans were filed for 410 dwellings, designed for 967 families, with cost estimated at $3,808,774. Previous years, also, show up better, as for instance in 1915, when 425 dwellings were constructed to house 1,444 families, and with total cost placed at $3,007,443. The bulk of the 1920 work, as will be evident, is covered by offices, stores and factories, as well as different alteration and improvement work.

Current construction at Newark has reached a low point December records, standing at $410,466 are being duplicated in January, and if anything, on even a smaller scale. Material dealers are beginning to notice the decline with all severity now, as current operations in recent months have rather kept things going, but many of these are now completed—and nothing new, really big, is taking the place. The outlook, however, is of hopeful aspect, and with probably two months of enforced inactivity, it is expected that March will show a decidedly different trend.

PRODUCTION SEASON OVER IN NEW JERSEY

Building material prices show but little change in New Jersey except in the matter of lumber, cement and a number of minor miscellaneous items. Burned clay products, even under lessened call, are holding their own in line of quotations, and in all likelihood will continue to do so Common brick is selling for around $25, delivered, at Newark, Paterson and vicinity, while in Trenton, $27 and $28 is being asked. The producing season, even including the all-year plants, is over, for a number of yards of this character have now closed down until conditions improve. Producers say that the demand is very slack, and a look at available stocks show that there are more than sufficient for all immediate and immediate-future requirements. It seems very likely that state manufacturers will commence the 1921 season with a good reserve on hand. The call for fire brick is fair, and that for hollow tile products poor; sewer pipe, drain tile and other burned clay goods are also operating under decreased demand.

Philadelphia: The Quaker City's building record for 1920 does not show up quite as bad as recent months of low-construction work would indicate, for the middle of the year proved an active, profitable period, helping to round out a year showing construction totals closely approximating $55,000,000. The bulk of work was centered in factories, loft buildings, offices and the like, while housing betterments were much the sufferer. Less than 1,300 new dwellings were built in this year, or about 5,000 less than a normal twelve months in this city. While there are many words of encouragement expressed for this branch of work in 1921, the aspects as they stand do not warrant very much optimism. It is apparent that there must be a trend to lower priced dwellings before things can advance in this line, and interest builder and prospective purchaser; prevailing prices show that $8,000 to $10,000 is being asked for houses that a few years ago would have brought only about one-half of such amounts.

Burned clay products, as well as other building materials, are engaging under light call at Philadelphia. Common brick sales are fair, considering conditions, with the $25 a thousand figure holding for material on the job. Fire brick is selling for $85 and $90, while face brick is hovering around the $50 mark for good selections. There is no trouble about material supply these days, for the larger dealers are well stocked, and local brick producers have all necessary reserves.

* * *

Illinois and Indiana Brick Men Optimistic

At a meeting of the Illinois-Indiana division of the American Face Brick Association, E. F. Plumb of the Streator (Ill.) Brick Co., was elected president. He takes the place of Eben Rodgers, of the Alton (Ill.) Brick Co.

The meeting was given over to the general discussion of the prospects of business during the coming season. Altho the industry is practically at a standstill, there are indications, some of which are in the nature of inquiries, that there will be sufficient business to insure a good year. Manufacturers who were present are of the opinion that money for building will soon be easier and that, as a result, construction will be resumed.

The next meeting of the Illinois-Indiana division will be February 8, 1921.

* * *

International Industries Fair at Holland

Holland's fifth industries fair will be held under the patronage of the queen, and under the auspices of the Dutch Government at Utrecht, Holland. The fair is of international character and all foreign manufactures and products will be admitted. For further information apply to the head office in Utrecht. The opening date will be September 6, 1921, and the exposition will continue to the 16th.

* * *

Hope for Reduction in Rail Rates

Under a bill introduced January 10 by Senator Trammell, railroad common carriers would be required to make rates after April 1, which would produce returns not exceeding four per cent. on their aggregate investments.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

DUTY ON IMPORTED CHINA CLAY

A NUMBER of important meetings have been held by the Ways and Means Committee, Washington, D. C., with regard to increased duties on chinaware, earthenware, clays and other ceramic products, and leading manufacturers and producers have been making an urgent plea for proper protection for the industry. On January 11, the hearing was distinctly a "clay day," and interesting and pertinent conclusions were given by those in attendance. A summary of the views is set forth in the following:

Representing Georgia clay producers, M. A. and D. R. Edgar, R. R. Rose and L. C. Haynes, recommended an increased duty of from $1.25 to $6 a ton on imported china clays. This suggestion was based on actual conditions, it was set forth, affecting the production, distribution and uses of china clay or kaolin in the United States as compared with the situation in England, the chief competing source, and which production is being transported and distributed in the United States in competition with the domestic clays.

It was pointed out that England is the dominating factor in the china clay trade by virtue of its extensive deposits of high-grade clays, well-established organizations and favorable ocean transportation. The primary clay banks are located in Cornwall and Devon, and Cornish clay forms the bulk of the imports of kaolin into the United States. Such shipments were valued before the war at about $1,000,000 to $1,750,000 annually.

During the period from 1910 to 1917, the domestic production of kaolin, both pure and of paper clay grade, never equalled the importation of that material from England. The utilization of domestic clays has increased steadily, however, in different lines of manufacture.

SPECIFIC DUTY DESIRED

Those present urged a specific duty on this commodity because of the difficulty, if not impossibility, of determining the quality of clay by actual physical examination in bulk and without either chemical or physical tests adapted to the varying conditions of use under molding, drying and firing of china ware, electrical porcelain goods and other articles for which kaolin is employed. As value is dependent upon quality, and quality is not made manifest to sight or touch it is clear that the specific duty plan is just to the government, just to the importer and is easy and certain of administration.

It was set forth that it is doubtful if domestic kaolin will entirely replace the imported article for highest grade pottery and highest grade paper, etc., unless the quality of such is improved, either thru the discovery of higher grade deposits or improved systems of purifying and standardizing the product of the mines.

While increased duties might not result in the immediate reduction of imports for pottery uses, they would undoubtedly justify and stimulate experiment and research by domestic producers, with the result that the domestic product would attain greater uniformity and purity, and eventually supply a larger percentage of domestic demand for different character of service.

It was charged that the British producers are dumping clay on the American market and later will probably raise their prices when the American mines are shut down. Maurice W. Philips, president of the Philadelphia Clay Co., who made this assertion, said that only two mines in the South and a few in Pennsylvania are in operation at the present time. Every clay man in the United States, he set forth, will go out of business because they will be unable to make any money if the English clay is permitted to come in. While the imported material is better for certain purposes, he charged that American paper makers and others can well get along with the domestic products.

ENGLAND PREPARING TO FLOOD THE COUNTRY

Supplementing the remarks of Mr. Philips, Mr. L. C. Haynes told the committee that English producers are prepared to ship into the United States during 1921 an amount totaling 500,000 tons. He said that even if a rate as high as $10 a ton is placed on the material, the British will ship in annually 200,000 tons.

English production costs, it was set forth, are 60 per cent. of those prevailing in this country. The foreign product has supplanted 60 per cent. of the business of the United States. He declined to subscribe to the theory that English clay is better than our own. The quality of the domestic product can be made equal or even superior, he said, if protection is given and the business allowed to grow. It would cost about $5 more a ton, in his opinion, to bring the quality on par with that of foreign clays.

It was shown by others at the meeting that the English producers are meeting all conditions of competition. An instance was set forth where domestic producers are subject to a rate of $9 a ton to Portland, Me., while the overseas rate is only $3.

Appearing on behalf of Morimura Brothers, New York, David Walker urged that no action be taken to increase the present rates of duty of 55 per cent. on decorated china ware, speaking, evidently, from the viewpoint of the importer. He told the committee that the price on these goods has increased 2.65 times since 1916.

TESTIMONY OF IMPORTERS REFUTED

A large number of potters were present to refute the testimony of the importers of china ware. W. E. Wells urged that the industry be given a sufficiently high rate to permit it to retain two-thirds of the domestic market. He said that before the war United States manufacturers held only about one-half of the market. It would not be so bad, it was pointed out, if the conditions brought about by the war would continue, but he predicted that before long the Germans and Austrians would be in position to flood the American market. He supplied the committee with some interesting statistics giving a comparison of wages at home and abroad, and of operating costs.

William Burgess, of the Potters' Association, gave similar testimony. Both said that the industry cannot live and prosper without suitable protection.

Like statements were made by George F. Dyer, of the Sanitary Potters' Association, Trenton, N. J., and others with respect to the sanitary ware industry. The Japanese, Mr. Dyer said, are installing modern methods of producing this line of material and in the future will make their activities felt in the American market. He said that the industry does not fear present imports. Speaking of "wash down bowls" as an instance, he said that Japanese workmen are called upon to make four a day at 15 cents each; American workers average ten a day and get $9.40 for their labor.

* * *

Pottery Dealers Face New Buying Situation

An unusual situation has developed in the American pottery market this year, and all because some of the larger jobbing interests have not been anticipating their requirements as in former years. This does not mean that the demand is diminishing, but, that distribution will be thru some new channels. Heretofore, the commission agent or the manufacturer's agency has worked on a commission basis only, but is now arranging his own accounts, and instead of sales being charged to the customer, the business will be charged to the account of the representative, who is getting into the jobbing game himself.

This will result in the manufacturer making "drop shipments" to the order of the representative, who in turn becomes responsible for the account. In turn, this new jobber will seek the same customer and the same outlet as the large jobbing house.

The large jobber, who has been accustomed to buying car lots, has a necessary overhead expense, occasioned by unpacking cars at destination and carrying stocks. This overhead expense of necessity must be added to the initial cost, which include freight charges, and is then absorbed in the selling list. In the new deal, the drop shipment plan, as advanced by the new method of distributing, will reduce in a measure perhaps, the cost of the merchandise to the retail distributor.

Demand on manufacturers will not be lessened, but some contend there will be an increase. The situation will be an interesting one to observe as the season advances.

* * *

Exportation of English China Clay

Consul General Robert P. Skinner sends the following from London, England, regarding the china clay industry in Devonshire and Cornwall, the principal centers in the United Kingdom where china clay is produced.

"Approximately one-third of the total china clay produced is exported to the United States. The clay is shipped at the ports of Plymouth, Avonmouth, Falmouth, and Fowey; about 90 per cent is shipped at Fowey, the nearest available port to the clay district and the chief exporting point.

"During the last few years the quantity of clay exported to the United States has been limited by various difficulties. In 1913 there was a strike of the clay miners; in 1914 the producers were unable to obtain coal, owing to the coal strike. Shortage of available ships caused a serious limitation during the war period. In the meantime the American clay industry has grown proportionately in strength, and domestic clays have come to be used largely as a substitute for English clay, both by paper makers and by potters.

"Since the end of the war the lack of proper loading facilities at Fowey has retarded the expansion of exports to meet the exceptionally great demand for clays which has resulted from business conditions in America. The loading facilities at Fowey consist of seven jetties, of which one is an electric tip capable of loading about 1,500 tons a day. The quantity which can be loaded per day at the remaining six jetties is so small that with the present demand for tonnage they are practically unavailable to any material extent for use in loading. Immediately prior to the war the building of a new jetty designed to take care of about 3,500 tons a day was commenced, but the work has proceeded very slowly."

In view of the recent amalgamation of English clay firms and plans to increase production, there is believed to be an opportunity for American shipping to transport cargoes of china clay to the United States from Plymouth and the neighboring ports of Avonmouth, Fowey, Penzance, and Falmouth. It often happens that American ships, having brought large cargoes to the United Kingdom are forced to return to the United States in ballast, and opportunities for obtaining cargoes of this character at regular intervals would seem to warrant investigation by American shipping interests involved.

* * *

Doubles Capital Stock

At the annual meeting of the Crooksville (Ohio) China Co. the capital stock of the corporation was authorized increased from $150,000 to $250,000, the additional capital being placed at the disposal of the board of directors for use in the expansion of the business as required. The stockholders re-elected the former board of directors, and the latter have elected the following officers: President, J. L. Bennett; vice-president, S. H. Brown; secretary-treasurer and general manager, Guy L. Crooks. The plant has a present capacity of nine kilns. "We are optimistic concerning the future," observed Mr. Crooks, following the meeting of the board, "and we believe that 1921 will prove to be an excellent business year."

* * *

Pittsburgh Pottery and Glassware Exhibit

That the United States has reached the forefront, not only in the manufacture and quality of glass and pottery products, but in the quantity produced, is shown at the annual glass and pottery exhibit now being conducted in Pittsburgh by more than 150 manufacturers of such wares. Almost every state in the Union is represented at the exhibit, which opened January 10 and will continue thru January. The exhibit will reach its zenith soon when all the firms will have their exhibits in place and be ready to let an admiring public see what this country is doing in the manufacture of high-grade pottery and glass ware. The exhibits are at the Fort Pitt Hotel, William Penn Hotel and Hotel Henry. Eleven floors of the Fort Pitt Hotel are taken up by exhibits, while many others are in the other two hotels named. It is by far the largest and finest display of pottery and glass ware ever exhibited in this country, if not in the world.

Indiana, Illinois, New York, Wisconsin, West Virginia, Maryland, New Jersey, Ohio and other states are well represented, making an aggregation of capital invested reaching far into the millions of dollars. Every one of the firms represented is looking to the future with a bright hope and full of confidence.

* * *

No Big Market for English Pottery

The reinstatement of the pottery industry in England after the stoppage caused by the coal miners' strike has been accomplished much more speedily than was generally expected. Exports are continuing in fair amounts but adverse exchange conditions are retarding these markets.

The price of crockery remains steady with no prospects of an immediate slump in either china or earthenware. Home demand, after a slight flutter during the Christmas trade, has gone very flat and buyers are holding back in the hope of seeing prices reduced.

Manufacturers are looking hopefully to the New Year. The world-shortage of crockery has not been made good and, given more favorable exchange conditions, there should be plenty of business still to be obtained.

* * *

Ocean Freight Rates Reduced

Slight reductions in ocean rates, from English to American ports, on raw pottery clays have been reported, but it is intimated that these reductions will be absorbed by advanced American rail rates. It is not believed that any benefit to pottery manufacturers will result because of the decreased ocean rate. Initial cost of clays, however, remain firm on former lists.

* * *

Manufacturers Obtain Own Price for Ware

One or two jobbers have been bending every effort of late, while in the East Liverpool, Ohio, district, to create a buyers' market, but without avail. One eastern jobber, after being given a price on a particular assortment, declared that the quotation was high, and that he had been offered a discount of 20 per cent. by another manufacturer. "We'll buy merchandise at that market," the pottery salesman told the jobber, whereupon the jobber left the office, only to return a few days later and place his order at the original quotation. The market, as a whole, is exceedingly firm, and manufacturers give strong intimations that no change is possible, as long as existing labor and material costs continue at present levels.

* * *

Independent Attitude of Potters

On the new price list issued by an eastern Ohio pottery corporation very recently is found the following:

"No prices are guaranteed, and orders will be filled at our price prevailing at time of shipment. We reserve the right to cancel any orders or parts of orders which working conditions may make impractical for us to execute.

* * *

Ohio Potter Motors to Florida

C. E. Henderson, of the Carrollton (Ohio) Pottery Co., occupied eleven days in making a motor trip from Carrollton via Washington to St. Petersburg, Fla., where he is spending the winter season. R. T. Henderson, his son, and general manager of the Carrollton plant, has received a lengthy letter from his father, in which the "joys and sorrows" of such a long trip were related at length. He traveled 1,815 miles in making the journey.

Border Patterns in Great Demand

Demand for border patterns in East Liverpool, Ohio, is excellent, and the majority of manufacturers are sold up on this class of merchandise for from six to nine months. On gold stamp and white and gold patterns the market is easier, and deliveries on this class of merchandise are being promised within a term of from two to four months.

* * *

Cargo of English Clay Arrives

After experiencing nineteen days of very rough weather the steamer Eskbridge arrived from Fowey, England, with a cargo of china clay.

* * *

Death of Edward F. Anderson

Edward F. Anderson, East Orange, N. J., a well-known importer of chinaware, with office in New York, died at his home in the first-mentioned city, January 6, aged 60 years.

* * *

Hard for Salesman to Connect with Potters

Many pottery manufacturers are receiving applications from resident salesmen who desire to represent dinnerware lines in their respective territories. Very few appointments are being made, this because the manufacturers are not in a position at this season to take on many new accounts.

* * *

Good Time Had at Banquet

The Western Glass and Pottery Association, composed of manufacturers, salesmen and buyers, held its annual banquet in the William Penn Hotel, January 19. Its president is John Harris, and its secretary, W. W. Lang. The banquet was informal and was followed by a cabaret and minstrel show, the instrumental music being furnished by the Fry Glass Co.'s band of thirty pieces.

* * *

Leaves Chelsea China Co.

James Shaw, formerly associated with the management of the plant of the Chelsea China Co., at New Cumberland, W. Va., is now engaged with the Liberty China Co., at Lincoln, Ill. After several weeks' idleness, operations have been resumed at the Chelsea plant, which manufactures vitreous china hotel ware.

* * *

"Lost" China Clay Deposit Re-Discovered

What is claimed as the "world's greatest china clay deposit," lost for thirty-seven years, has been found near Los Angeles, Calif., and will make that city prominent in chinaware manufacture, according to Theodore A. Bell, prominent San Francisco attorney, and his business associate in the new venture, Thomas Normile, a man with twenty years' experience in the chinaware industry.

Immediate construction of a second unit to the Furlong-Poxon potteries, 2300 East Fifty-second street, Los Angeles, which has been purchased by Bell and Normile, has been ordered. The plant was bought for $100,000 and the second unit is to cost a like amount. In this enlarged plant, according to Mr. Normile, will be manufactured chinaware equal to the finest class of ware produced from English clays.

Around Los Angeles, Mr. Normile declares, there is enough pottery clay which, when mixed with that from the "lost" deposit, can keep America in dishes for the next one thousand years. Recently Mr. Normile and associates have purchased eight additional deposits, valued at more than $5,000,000.

Clay from the "lost" deposit will be sold to all potteries wishing to buy it, because there is more than enough for his own use, declares Mr. Normile.

"By using our clay in our Los Angeles factory," he stated, "we can eliminate the long freight haul of clay from the eastern deposits and give America a home made product."

* * *

Albright China Co. Elects New Officers

At the annual meeting of the stockholders of the Albright China Co., of Carrollton, Ohio, which was held in Pittsburgh, Pa., the following officers were elected: President, William T McNutt, East Liverpool; vice-president, William T. Palmer, Celina, Ohio; secretary and sales manager, I. E. Mincks; assistant secretary, Frank W. Poland, East Liverpool; treasurer and general manager, James I. Lore, Carrollton, Ohio. This corporation has absorbed the stock of the Scio China Co., which is building a nine kiln plant at Scio, Ohio, and the charter of the Scio corporation has been surrendered. The Scio plant will hereafter be known as the No. 2 plant of the Albright China Co.

* * *

Prepare to Dissolve Company

Great Western Pottery Co., Kokomo, Ind., has filed a preliminary certificate of dissolution, it is reported.

* * *

May Abandon Long-Used Dinner Shape

Cartwright Pottery Co., of East Liverpool, Ohio, contemplates placing a new dinner shape on the market, probably early in the spring. The present shape has been featured by the firm for a number of years.

* * *

Has Own Supply of Natural Gas

Wells have been drilled by the Logan Pottery Co., at Newark, Ohio, and the resultant flow of natural gas is sufficient to furnish all the fuel required. About a quarter of a million cubic feet daily is the capacity of these wells.

* * *

Ritter Pottery Co. Obtains Charter

Ritter Pottery Co., Toledo, Ohio, has been chartered with a capital of $50,000 to operate a pottery and manufacture earthenware. The incorporators are: F. W. Ritter, B. W. Patrick, H. F. Corodo, C. J. Ruepenbacker and G. Z. Anthony.

* * *

Expect Operations Will Begin Soon

It is possible that the new Pittsburgh-American China Co., of Greensburg, Pa., will be placed in operation within the next three or four months, according to Warren H. Dunn, general manager of the company, who maintains his office in the Westinghouse Building, Pittsburgh, Pa.

"We have our plant erected, but are now waiting to have the power connected from the lines of the West Penn Power Co.," said Mr. Dunn. "We will have a capacity of four tunnel kilns for both glost and bisque ware, also one tunnel kiln for decorating ware, all of the Owens design. Our product will consist solely of vitrified hotel china and dinner ware. There is over $30,000 worth of materials now on the ground."

Construction of this new plant began last year. Delays were encountered in building on account of the inactive delivery of materials and scarcity of labor.

* * *

China Dealers Incorporate

The United States China Co. has been formed at Indianapolis, Ind., with a capital stock of $200,000. The board of directors includes: A. O. Oberhardt, A. J. Vits, C. D. Howe and Otto E. Freund. The concern is a distributing organization.

* * *

Buys Four Cars of Ware

Morris Bergman, of New York, when in the East Liverpool market a few days ago succeeded in buying four cars of ware. "We are pushing business and we have to get the merchandise in stock if we expect to make any sales," he said before leaving for home.

* * *

Porcelain Company Reduces Capital

The Locke Insulator Co., LeRoy, N. Y., has arranged for a reduction of its capitalization, under state incorporation, from $1,000,000 to $600,000. As announced in recent issues of *Brick and Clay Record,* the company is completing a new plant at Baltimore, Md.

* * *

To Open Branch in Albany, N. Y.

Robinson Clay Products Co. has arranged to open a warehouse and distributing office in Albany, N. Y., from where its yellowware and white glaze stoneware will be shipped to all eastern and northern points. All the yellowware and stoneware plants of this concern are located in Ohio.

* * *

Burns First Kiln of Tea Pots

The first kiln of the new Flannagan Pottery at Byesville, Ohio, was drawn January 12. The concern is making a special feature of tea pots. The property is under the executive management of James E. Flannagan of Cambridge, Ohio, who has been engaged in the jobbing business for some years.

* * *

Porcelain Company Builds

The General Porcelain Co., Parkersburg, W. Va., has awarded a contract to the Milliken Brothers Manufacturing Co., Woolworth Building, New York City, for a one-story building, 61 by 333 feet. The building will be steel frame, of standardized Milliken design, as regularly produced by this company.

* * *

Relining Decorating Kilns

Most all of the decorating kilns at the Newell, W. Va., plants of the Homer Laughlin China Co. are being relined. Brick masons have been working on this contract for over a week, and it is believed the battery will be ready for service commencing with the new year. Decorators at these plants resume work January 3.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Clean Flues by "Burn Outs"

Draft in a continuous kiln is a very important factor in the success of the burning operation. One thing which influences draft a great deal is the condition of the flues under the kiln floor. They should be examined regularly and at all times kept free from sand and clays which drop thru the floor into them.

The gas flues leading from the producers to the gas uptakes will clog with soot quite rapidly and must be burned out periodically. This is usually done about every four to six weeks, depending on the kind of coal used and the size of the gas flues. For this operation a burn out stack is built at one end of the flue. The producers and kiln are dampered off from the flue and air admitted at the end of the flue opposite from the burn out stack. The soot in the flue will be hot enough to burn so that all that is required is to furnish the necessary air and combustion will take place cleaning the soot from the flue.

⁂

Fitting Gas Pipe to a Kiln

In equipping a kiln for burning with natural gas, a superintendent who has had considerable experience with this fuel, recommends that for kilns of 24 to 28 feet in diameter a 3 inch pipe should be laid around the crowns near the spring of the crown or on the top of the kiln wall. The pipe line should be tapped above each fire box at a point about 6 inches to one side so that the vertical 1¼ inch pipe does not interfere with the peepholes, and a 3 inch pipe saddles with a 1¼ inch opening for the outlets put on. A 1¼ inch pipe should run from here down to the center of the fire hole, which should be 8x8 inches or 9x9 inches square.

These fire holes should be as near the floor level of the kiln as possible. To the lower end of the pipe 1¼x½ inch ells should be connected and to these ells is screwed a piece of ½ inch pipe which is just long enough to reach a point in the fire hole 6 to 9 inches from the outside of the kiln wall. Or, you may use 1¼x1¼ inch ells and 1¼ inch nipples long enough to reach into the kiln, in a manner as described above, using 1¼ inch pipe caps, which can be controlled so that they leave a ½ inch hole at the bottom, or even larger if necessary. They should be provided with a flat headed brass top located at a convenient point where it can easily be reached with a wrench and permit the burner to see into the peephole at the same time.

⁂

Increased Production of Magnesite in 1920

The domestic magnesite industry as a whole enjoyed a good year in 1920. The quantity of magnesite mined exceeded that mined in any previous year except 1917. Notwithstanding the contention made by the domestic producers in 1919 that without a tariff the market in the eastern part of the United States would be supplied with

Periods of Decomposition of Materials in Clay.

The carbonaceous matter in clays may consist of fresh vegetable tissue, roots, leaves, and so forth; bituminous and asphaltic material, and graphitic matter. The small amount of roots, leaves and so forth found in clays burn out at low temperatures without doing harm.

Under the action of heat, bituminous and asphaltic matters break down into highly combustible volatile hydrocarbons and a residue of graphite or coke-like carbon. The burning of these hydrocarbon gases in and around the ware produces an intense heat. If they are present in any appreciable amount, two to six per cent., and their volatilization is not controlled, the result will be a kiln of bloated and warped ware. The proper procedure is to cut down the air supply to the point at which the combustion of the gases takes place at a safe rate.

Graphitic carbon burns out slowly without flame, but with a simple glowing. The only necessity is that sufficient time be given for its complete expulsion at a good red heat. In fact, the most of this kind of carbon is not expelled until the oxidation period.

Pyrites, FeS_2, consist of one molecule of iron and two of sulphur. By simply heating it at temperatures around 850 deg. F. one molecule of sulphur is driven off leaving the other molecule combined with iron as FeS. In a kiln the sulphur driven off unites with the oxygen forming sulphur dioxide, SO_2, or SO_3, which passes out of the stack. The FeS remains in the clay until the oxidation period is reached.

The carbonates commonly found in clays are those of iron, calcium and the double carbonate of calcium and magnesium, called dolomite. The decomposition of iron carbonate takes place quietly around 700 deg. F. with the formation of carbon dioxide and ferrous oxide. The other carbonates do not decompose until the oxidation period.

There is really no distinct separation between the dehydration period and the oxidation period of burning. They overlap considerably. As dehydration is approaching its completion oxidation is already underway.

When the dehydration has been completed the clay has lost all of its water, half of the sulphur from the pyrites, all of its organic and volatile carbon, and part of its carbon dioxide. It still contains, as impurities to be removed, graphitic carbon, sulphur in the form of FeS and part of its carbon dioxide in the form of carbonates such as lime, etc.

Excavator Installed on Plant of Haviland (Ohio) Clay Works

Another View of Excavator. This Machine and One Man Take Place of Four Laborers

European magnesite and that companies which had made large investments in magnesite deposits and plants in California and Washington would be forced out of business, no tariff legislation was enacted, and the industry seemingly has not suffered disaster.

Preliminary figures reported by the United States Geological Survey, Department of the Interior, indicate that the production of crude magnesite in Washington was about 235,000 short tons, as compared with 106,200 tons in 1919. Practically all this was dead-burned and was sold as refractory material to steel companies and manufacturers of refractory products east of Chicago. The figures for California are not yet available, but the output of crude magnesite in the state was about 60,000 tons. California and Washington are the only producing States, and the total output for the United States was therefore probably between 275,000 and 300,000 tons.

The imports entered for consumption from January 1 to September 30, 1920, amounted to 20,730 tons of crude and 10,439 tons of calcined magnesite, as compared with 6,381 tons crude and 9,471 tons calcined entered in 1919. Estimated as crude magnesite the imports for the first nine months of 1920 were about 41,600 tons, as compared with 25,300 tons in 1919. The imports in 1920 probably amounted to about 50,000 tons of crude magnesite, or double those of 1919.

On January 13, 1920, the Senate Finance Committee held a hearing at which users and importers of foreign magnesite presented their objections to a tariff on magnesite.

An investigation of the relations of time, temperature, and size of particles in the decomposition of magnesite was made during the year by the Bureau of Mines in cooperation with the Northwest Magnesite Co. at the mining experiment station at Berkeley, Calif. An electrically heated rotary furnace was used for these experiments in calcination, and the samples of crude magnesite used were obtained from mines in California and Washington.

Experiments with magnesite from Washington that has been used exclusively as refractory material are said to show that it is suitable also for use as plastic material, and preparations are being made to calcine it at the mines near Valley, Wash., for use in cement.

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Machine Supplants Three Men

Too frequently, the small clay plant operator feels that because his production is small, modern improvements and labor saving devices are excluded to him. However, this is far from being the case. The small plant can use, to cut down its cost and increase its efficiency, equipment such as pyrometers, trucks, portable conveyors, excavating machinery, and so forth.

An interesting example of how one small plant in northwestern Ohio cut its costs of winning clay is shown by a letter received from C. M. Mumma, of the Haviland (Ohio) Clay Works, manufacturers of drain tile and building brick. This concern recently installed a Bay City excavator for winning its clay and in a report on the service obtained from same, Mr. Mumma says:

“We find that the Bay City excavator works to our entire satisfaction. One man and the machine digs all of our clay and the operator is only required at the machine a fraction of his time. This lets him free and gives him plenty of time to remove the straw covering the bank, place the track, care for the machine, and so forth.

“The wide cutting saves moving the track often. The excavator works on its own track made up of six foot rails which are taken up and relaid by the operator.

“The machine displaced a gang of four men which could not keep clay spaded fast enough for our consumption even under the most favorable conditions—much less when frozen straw, snow or bad weather complicated matters.

“As we write a wet snow is falling and men would not think of working outside today, yet the merry chuckle of the exhaust of the excavator engine tells us it is operating continuously.

“We will also send you before long some views showing our gasoline driven locomotive used for hauling clay to the factory.”

The saving that Mr. Mumma, who is an enterprising small plant operator, accomplished by the introduction of a proper machine in the right place is indicative of what can be done on many of our small plants today. Equipment designed in the last year or two has many possibilities of adaptability on small plants enabling the operator to cut his labor requirements or turn out his ware with greater facility. *Brick and Clay Record* is anxious to hear what other establishments have done in improving its products, increasing its production with no increase in labor force or in reducing the number of men required.

⁂

Chicago Section of A. C. S. to Meet

The Chicago Section of the American Ceramic Society will hold a luncheon-meeting at the City Club of Chicago, on Saturday, February 5.

FIRE BRICK
FOR KILNS
RIGHT QUALITY
Write us and we will tell you about them and submit prices
The Evans Builders Co.
First National Bank Bldg., Cincinnati, Ohio
921 Fifteenth St., N. W. Washington, D. C.

Boss Ten-Hour Dryer
Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.
Boss System of Burning
50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.
Dryers and kilns designed and built—write us regarding your drying and burning difficulties.
J. C. Boss Engineering Co.
Elkhart, Indiana

SPEED AND SAFETY
CLAY PRODUCTS MUST BE MOVED FROM ONE PART OF THE PLANT TO ANOTHER WITH SPEED AND SAFETY.
A car to move these products must be constantly in service and must be able to stand abuse without falter. In CONCO CARS you find these two requirements.

Information on request.
H. D. CONKEY & CO.
MENDOTA, ILLINOIS

It Makes No Difference What Your Requirements May Be—We Have the Car for Your Needs
Dryer cars of any size or type. Transfer cars turntables, wheel barrows, wheels.
Send us your requirements and let us figure for you. *No* obligation whatever.
PETTIGREW FOUNDRY COMPANY
HARVEY, ILLINOIS

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

Life Thread of Clay Man Cut

Henry L. Thorpe, president of the Park Brick Co., Elmwood, Conn., died at his home in Elmwood on December 28, 1920, following an illness of nearly six weeks. Mr. Thorpe had been interested in the manufacture of brick for about thirty years. He leaves his wife and a son.

Reaches End of Life's Journey

John L. Crawford, fifty years old, former president of the Vigo-American Clay Co., at Terre Haute, Ind., and one of the most prominent business men in Terre Haute, died suddenly at his home January 9. He had been ill for some time, but had continued his business activities. He was president of the Terre Haute National Bank at the time of his death.

Grim Reaper's Scythe Reaches A. T. Blatchford

A long period of illness terminated in the death of Alfred T. Blatchford, general manager of the Richland Shale Products Co., Columbia, S. C. Mr. Blatchford was born in Australia and came to this country while yet a boy. He has had experience in almost every development of brick and hollow tile manufacture and has constructed or operated plants in nearly every part of the country.

Succumbs After Long Illness

Andrew Cochran, Sr., president of Cochran, Drugan & Co., Trenton, N. J., manufacturer of sanitary earthenware, died at his home in that city, 705 Centre Street, January 11, after a prolonged illness. Mr. Cochran was 70 years of age, and a familiar figure in pottery circles in this section. He started as a journeyman potter, and later established his own business. He was a member of Mercer Lodge No. 50, F. and A. M., and a member of the local Common Council from 1888 to 1890.

Death of James W. Ford

James W. Ford, for many years a prominent brick manufacturer at Dover, N. H., died at the family homestead in that city on January 2, 1921, aged 72 years. He was a son of George Ford, the pioneer brick manufacturer of the district. Mr. Ford was one of the organizers, and at the time of his death, was captain of the Dover Point Volunteer Fire Association. He also was a member of the Odd Fellows and the Red Men.

Illness Proves Fatal

Henry L. Thorpe, president of the Park Brick Co., which has a big plant at Elmwood, near Hartford, Conn., died at his home in Hartford on December 28, after an illness of several weeks. Mr. Thorpe was born in North Haven, Conn., and was 68 years of age. For about 30 years he had been interested in the manufacture of brick, the first eight years being in the business at North Haven. He became interested in the Elmwood plant in 1898. A widow and one son survive.

Michigan Brick Man in Columbus

H. K. Barr, manager of the Michigan Face Brick Co., of Grand Rapids, Mich., was a recent business visitor in Columbus.

L. C. Briggs Visits Columbus

L. C. Briggs, of the Briggs Co., of Lansing and other cities in Michigan, was a business visitor in Columbus, Ohio, recently.

Brick Official Made Bank Director

S. C. Martin, president of the Kittanning (Pa.) Brick & Fire Clay Co., has been elected a director of the Diamond National Bank, Pittsburgh, Pa., succeeding John W. Robinson, deceased.

Will Attend National Convention

C. C. Stadler of Two Rivers, Wis., has left for New York to attend the convention of the Common Brick Manufacturers' Association. He is a delegate of the Wisconsin Brick Manufacturers' Association.

Annual Dinner of Thomas Maddock's Sons Co.

The Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary ware, gave its annual dinner to department heads, salesmen and members of the office force at the Trenton Country Club, Saturday evening, January 8. A. M. Maddock, president of the company, acted as toastmaster, and a number of interesting talks were made. About sixty-five representatives were present.

H. C. Kleymeyer Heads Chamber of Commerce

Henry C. Kleymeyer, president of the Standard Brick Co., Evansville, Ind., was chosen president of the Evansville Chamber of Commerce. The choice of Mr. Kleymeyer for this office is considered by the board of directors as a real start toward giving the community twelve months of honest and intelligent civic service. The board of directors feel that they have selected a man who would meet the public demand for a change and who would have the time, the experience and the ability to serve.

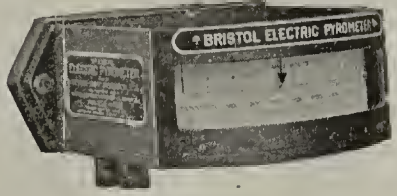
Married Fifty-Six Years

Amos T. Marston, who has conducted a brick plant at Saco, Me., for the past 46 years, celebrated the fifty-sixth anniversary of his wedding at his home on Lincoln Street, Saco, on January 5. Many friends called during the afternoon and evening to pay their respects to Mr. and Mrs. Marston, who are among the best known and most popular persons in the city. Mr. Marston has been confined to the house for the past seven weeks as the result of a fall but is improving and expects to be able to return to active business shortly.

Four Clay Companies Engage with Dealers

Announcement is made that Gamewell, Watkins & Thomasson, Birmingham, Ala., have become exclusive selling agents for the Alabama Clay Products Co., Birmingham (Ala.) Hollow Tile Co.; Bibby Coal, Clay & Shale Co., Birmingham, Ala., and Louisville Fire Brick Works, Louisville, Ky.

PYROMETERS FOR THE KILN



See Bulletin AE-291.

TRADE MARK BRISTOL'S REG. U. S. PAT. OFFICE

is the pioneer industrial Pyrometer. They are made to stand up under the stress of daily use. That is the reason Bristol's are well adapted for the Brick Kiln requirements.

THE BRISTOL COMPANY, Waterbury, Conn.

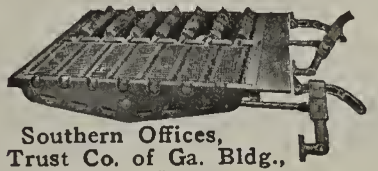
BURN ANY COAL

Never mind the quality; put it up to

CANTON Rocking and Dumping Grates

to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

For Boiler and Kiln Grates



Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.

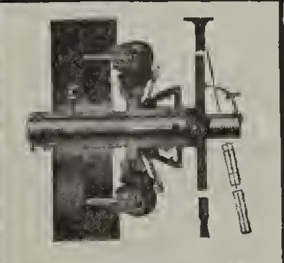
CANTON GRATE COMPANY
1706 Woodland Avenue,
Canton, Ohio

MANGANESE DIOXIDE

Uniform Physically and Analytically

E. J. LAVINO and COMPANY
(Grinding Plant: Plymouth Meeting, Pa.)
Bullitt Building, Philadelphia, Pa.

Hill Friction Clutches
Collar Oiling Bearings
and
Complete Power Transmission Machinery Equipments



Hill Friction Clutch Pulley
Smith Type
(Patented)

Catalogs upon Request

The Hill Clutch Co.
Cleveland, Ohio
New York Office. 50 Church Street

USE OIL FUEL

For maximum output, quality and efficiency in kiln work.

It is especially adapted to the successful operation of continuous tunnel kilns.

"CAHCO" COMPLETE SYSTEMS COMPRISE:

- Concrete Oil Storage Reservoirs
- Duplicate Pumping and Piping Systems
- Provision for Straining and Heating Oil
- High Efficiency Mechanically Atomizing Oil Burners
- Use of Highly Preheated Air for Combustion

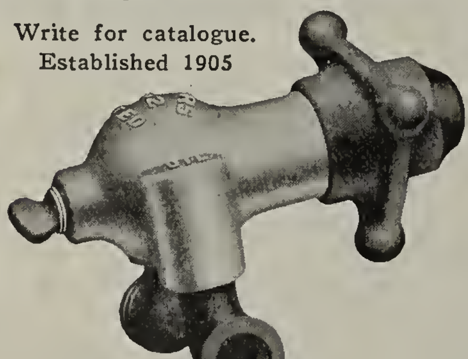
ENGINEERS—C. A. HOPPIN & COMPANY—CONSTRUCTORS

Central National Bank Bldg.
Peoria, Illinois

Monadnock Block
Chicago, Illinois

Why Use Coal For Fuel?

Write for catalogue.
Established 1905



It is scarce and expensive besides taking longer to burn your ware, and considerable

More Labor—

USE OIL

The Schurs Kiln Burners in your kilns mean—Quick Burns, Better Colors, complete control of fire and

Great Labor Saving

Schurs Oil Burner Company
Los Angeles, Calif. U. S. A.

It's the Knowing How

A poor cook can spoil the most excellent food. It's the knowing how that determines the final quality.

Caldwell Cypress Tanks are finished products par excellence and backed by the "know-how" of over thirty years' experience. The fine materials of which they are made are not in themselves sufficient to give maximum strength, durability and tightness. It is the training and thoroughness of expert and experienced tank builders that have established for all Caldwell Tanks their enviable reputation.

Write for Catalogue

W. E. Caldwell Co., Incorporated
2380 Brook St., Louisville, Ky.

Caldwell
TANKS AND TOWERS

Hercules (Red-Strand) Wire Rope

Because of its unusual strength, toughness and other wear resisting qualities, it is extremely durable.

Because of its great durability it is safe and economical.

Established 1857

A. Leschen & Sons Rope Company
St. Louis

New York
Denver

Chicago
San Francisco

Organize Company to Make Tile

Plans for the erection of a large tile plant have been announced by W. B. Neher, of Hollywood, Ala., and a company has been organized with a capital stock of $50,000 to erect and operate the plant. A site has been obtained near the river and building material is now being placed. Headquarters of the company will be in Decatur. The officers of the company are: J. C. Jacobs, Scottsboro, Ala., president; John A. Thomason, Decatur, vice president; W. B. Neher, general manager. Directors: J. C. Jacobs, J. H. Hurt, Virgil Bouldin, J. A. Williams, John R. Witt, John A. Thomason, Charles H. Eyster, and W. B. Neher.

Hollow Tile Favorite Material for Schools

More than three-quarters of a million dollars worth of school buildings constructed from hollow tile are either in course of construction, being planned, or have just been completed in Jefferson County, Ala. Hollow tile is being extensively used by the Jefferson County Board of Education in its school building program, which began in 1918 and reached its crest in 1920. D. O. Whilldin, of Birmingham, Ala., architect for the Board of Education, has prepared the plans and supervised the building of the entire list of buildings already completed and is preparing plans for two new buildings, for which contracts will be let in a few weeks. Buildings constructed from hollow tile, including those completed since 1918, those now in course of construction, and those being planned, total 24. Of this number 13 have been completed and are now in use, nine are in course of construction, and plans are being drawn for two additional buildings.

All schools under the supervision of the Jefferson County Board of Education are in the smaller municipalities or in the rural districts of the county. Plans prepared by Mr. Whilldin and adopted by the board for these schools are all of the unit plan and all are one-story buildings of the most modern type. Materials with high resistance to fire have been used thruout all of the buildings.

The Powderly High School and Grammar School combined, which is now in course of construction, is said to be the largest one-story building in the state of Alabama. This building, as all of the larger buildings, is of hollow tile veneered with tapestry brick. For the smaller buildings erected by the board, tile is used with a stucco finish. In all of the new structures standard tile is used. The sizes vary from four to twelve inches.

To Remodel Chrome Brick Plant

United States Refractories Co., will remodel and enlarge its chrome brick plant at San Luis Obispo, Cal.

From $25,000 to $2,000,000

According to a report the Union Brick Co., Los Angeles, Cal., has increased its capitalization from $25,000 to $2,000,000.

Wants New Name

The Pacific Sewer Pipe Co., Los Angeles, has filed a petition requesting to change its name from Pacific Sewer Pipe Co. to Pacific Clay Products Co.

Brick and Hollow Tile Popular Materials

Many brick and hollow tile buildings are being erected in Burbank, Cal., and that city is rising fast. The Fred L. Menley Co. is building a large factory for the manufacture of window shades and shade cloth.

Carbassemo Soap Products Co. is planning a second unit of brick construction in addition to those which have just been completed.

The United States Compression Inner Tube Co. are erecting a building of two stories and ground dimension of 80x420 feet, concrete, with brick facing.

Big Building Operation to Begin in Spring

Indications point toward an early spring and brick men and contractors of San Francisco are making every effort to prepare in advance for an early commencement of spring building operations on a large scale in not only San Francisco but practically every city on the Pacific Coast south of the Oregon line. Several big deals in the brick industry are rumored but could not be confirmed and those reported to be concerned would make no statement for publication. The labor situation is fast becoming better than even the most optimistic had hoped for.

To Make Adobe Brick for Commercial Purposes

Incorporation papers for a new company which will undertake the making of adobe brick for commercial purposes will be taken out in the near future, according to Harley S. Bradley, architectural designer. A group of Pasadena, Cal., men including Theo. L. Sylertson are interested. The plant will be in Eagle Rock.

The brick will be manufactured under the name of the Keylock Adobe Brick, and its principal feature will be a dovetail key in each brick for holding the plaster firmly in place. Until machinery can be secured the brick will be manufactured by hand, but the necessary machinery has been ordered and is expected to arrive in the near future.

Making Plans for Large Brick Plant

There is a probability that Porterville, Cal., may have one of the largest brick and hollow tile factories on the Pacific Coast. J. W. Fraser, representing Harry W. Loeb of San Francisco, and Lew Thorne, of wide experience in brick making, have taken the matter up with the Porterville Chamber of Commerce, with the view of utilizing shale deposits at Worth, five miles from that city. Experts declare this deposit to be the finest in California, and peculiarly adapted for the construction of hollow tile and brick.

Engineers have estimated that the bed contains 12,000,000 cubic feet of shale, enough to keep the factory going for 300 years. The company would have a capital of $400,000, and the estimated capacity of the plant would be 50,000 brick per day.

Popularity of Brick Still Unquestioned

In total amounts expended for building in Denver, Colo., during 1920, brick residences exceeded all other classes of permits. The total amount spent for brick residences was $1,917,000. The next largest class was that of office buildings, which totaled $1,320,300. The total number of permits of all classes was 3,390. That for 1919 was 3,036, showing an increase in permits for 1920 of 364.

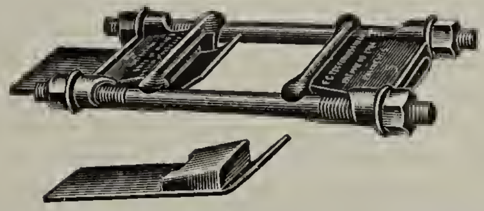
Defective Chimney Causes Fire

Fire believed to have been caused by a defective chimney, destroyed a large barn belonging to D. B. Andrews, assistant director of the Stiles Brick Co., at North Haven, Conn., recently, causing a loss of at least $2,000. Two automobiles were stored in the building, one of which was badly damaged.

CARS

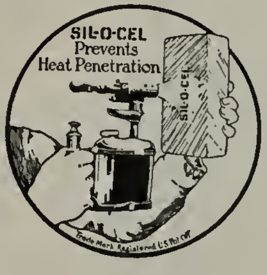
OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
BARNESVILLE, OHIO

TECKTONIUS
Malleable Iron Kiln Band and Plate Fasteners



The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.
E. C. TECKTONIUS MFG. CO.
1202 Racine Street RACINE, WISCONSIN

Insulation Protects Kilns



It has been proved in actual practice that effective insulation increases the productivity of kilns by protecting them against heat losses.
SIL-O-CEL
insulation is the most effective form of protection for your kilns. It prevents heat penetration and radiation from the surfaces. The low heat conductivity factor of Sil-O-Cel tends to seal the heat in the kilns and thereby reduce radiation losses to the minimum and provides better control of temperatures.
Bulletin R-71 gladly sent on request.
CELITE PRODUCTS COMPANY
New York St. Louis Cleveland
Pittsburgh Philadelphia Los Angeles
Chicago Detroit San Francisco

They Do Produce Results
We refer to
Those little ads you have noticed in our Classified Ad Pages.
It is the decision of concerns who have used them. Try one.
Brick and Clay Record

GASOLINE HAULAGE MOTORS
Particularly Adapted to
CLAY AND COAL HAULS
or Any Light
INDUSTRIAL HAULAGE

Will do the work of a $5000 machine on a light haul at a fraction of the cost. Absolutely the most economical haulage on the market—bar none.

Power—Lots of it. We use new Ford Ton Truck Motors, transmissions, and worm drive differentials, and our special auxiliary transmission, giving a low speed up to 4 miles per hour and high speed up to 15 miles, these speeds being obtained while running forward or reverse.

Types—One piece solid cast iron frame, or for light hauls can furnish sectional oak frame.

Weight—Cast frame motors 3850 lbs. Wood frame 2750 lbs. with additional ballasting capacity of 1000 lbs. Gauge 24 in. to 56 in.

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BROOKVILLE TRUCK & TRACTOR COMPANY
BROOKVILLE, PA.

HY-GRADE MANGANESE CO.
WOODSTOCK, VA.

Miners
and
Grinders

Especially Prepared
for Brick Making

Cut Price of Brick Ten Per Cent.

A reduction of 10 per cent. in the price of common brick has been announced by several manufacturers in Connecticut, particularly in the immediate vicinity of New Haven. The new price is $27 delivered on the job. Included among the firms quoting the new prices are the Montowese Brick Co., I. L. Stiles Co., Davis Brick Co., New Haven Brick Co., and the Cody Brick Co. This action by the brick makers, together with the reductions in lumber and hardware, is expected to help stimulate building, of which there has been very little in Connecticut recently.

Clay Industry Quiet in Macomb

Macomb (Ill.) Sewer Pipe Co., a property of the Dickey interests of Kansas City, Mo., shut down recently. All clay plants in Macomb, with the exception of two are now closed for the winter season.

Chicago to Pave 150 Miles of Streets

An indication of a fair amount of business during the coming year for paving brick manufacturers is found in the announcement that Chicago, Ill., will proceed with the building of approximately 150 miles of streets. Some of these pavings will be cement, some asphalt and a great amount of them will be brick. It is expected that the street improvements will cost between $8,000,000 or $9,000,000.

In 1920 about fifty-five miles of streets were paved, the high cost of labor and materials preventing the carrying out of the full program.

Business Remains Good

National Tile Co. at Anderson, Ind., continues to enjoy a volume of good business. The plant has been operating continuously without a stop even for the taking of inventory.

Clay Products Company Established in Muncie

The National Clay Products Co., of Muncie, Ind., has filed incorporation papers with the secretary of state in Indianapolis. The company has a capital stock of $25,000 and the directors are Wilfred W. Wingate, Carl Pittenger and Frank Ault. The company will manufacture clay and cement products.

Finds Coal Mining Unprofitable

The Shelby Coal and Clay Co., of Indianapolis, which was organized for the dual purpose of engaging in the manufacture of clay products and the production of coal, has quit the coal field after turning over its mine near Brazil, Ind., to the miners for back wages. When pay day came officials of the company merely told the miners there was no money with which to pay them and tendered them the mine to operate.

Stop Street Improvements

The paving brick industry was affected by a ruling January 15, of the Indianapolis Board of Public Works which called off all street improvements for the time being and instructed the city purchasing agent to stop immediately the purchase of brick and other street improvement materials. The board said the action was based on the assumption that these materials would be cheaper in the later spring, and also for the reason that the markets were very uncertain.

Kansas Wants to Make Own Road Materials

Richard J. Hopkins, attorney general of Kansas, is preparing a bill to be introduced at the coming session of the Kansas legislature, to permit the state to manufacture cement and brick as a part of its road building program.

Rebuilding Old Clay Plant

Plans are under way for the reconstruction of the Midland Brick Co., Peru, Kansas, according to a report received. Niels Esperson, former owner, and L. C. Nelson, manager of the Mid Continent Clay Co. at Peru, are contemplating rebuilding this plant. The new plant will be modern and up-to-date in every way and approximately $100,000 will be spent in its rehabilitation. The company will have a capacity of 100,000 face brick of a variety of colors both natural and artificial. Quarry tile and wall and mantel tile in many colors will also be made. Natural gas will be used for fuel and for power, of which the company has its own supply.

Big Drainage Project Formulating

Paducah, Ky., reports that organizations are being formed in Ballard and McCracken County for drainage of over 100 miles of land, at a cost of about $2,000,000.

Shuts Down to Make Repairs

Coral Ridge Clay Products Co., Louisville, Ky., is down temporarily, and making the usual improvements at this season, but expects to resume operations shortly.

Common Brick Lower in Price

Common hard brick in Louisville, Ky., are now quoted at $22 delivered, as against $24 in November, but it is claimed that the price will be reduced to $20 a thousand before long.

Will Wait for Demand Before Starting Up

Southern Brick & Tile Co., Louisville, Ky., has been down for some days, and is making repairs, but does not plan to start again until stocks on hand are materially reduced, or an active demand develops.

Clay Products Display at Lumber Meeting

It is not unlikely that there will be several displays of clay products on January 26 to 29, at the Jefferson County Armory, while the Kentucky Retail Lumber Dealers' Association, and Kentucky Retail Hardware & Implement Dealers' Association are having their annual conventions in Louisville. Last week the sand and gravel producers and crushed stone men met at Louisville.

Labor and Coal Both Cheaper in Kentucky

The situation in Louisville, Ky., at the present time is one in which but little activity is shown, but also one in which there are very fair prospects of some immediate business and a fair volume of later business. A number of the brick plants are down at the present time due to lack of demand, and others are operating about half time.

Coal, labor and cars are all in good supply, with coal being offered at the buyer's own price, and labor somewhat cheaper than it has been. Cars are in full supply for the movement on any kind of car, or any product, anywhere. Good gas coal screenings can be had now at around $2 and $2.25 a ton at the mine, some such coal being offered as low as $1.75. Mine run coal is quoted at $2 to $3 a ton

"The ERIE is the most up-to-date and complete shovel on the market today."
H. C. McLenithan, Duffney Brick Co., Mechanicville, N. Y.

"OUR ERIE has more than paid for itself in 10 months and is as good as new. We are averaging 360 cu. yards a day in tough blue shale."
J. M. Purcell, Pres., Duffney Brick Co., Mechanicville, N. Y. (They now own 2 ERIES.)

The ERIE gives steady, reliable service digging stiff clay or hard shale. A careful comparison of steam shovels will convince you that the ERIE is the shovel to buy.

Write for our Bulletin "B," showing just what the ERIE can do.

BALL ENGINE CO., Erie, Pa., U. S. A.
Builders of ERIE Revolving Shovels and Locomotive Cranes.
Branch Offices in NEW YORK, BOSTON, CHICAGO.
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The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

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FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

Save Money
Handling Loose Materials
With a
Godfrey Conveyor

Whether you handle clay, sand, gravel, coal, coke or similar materials a Godfrey Conveyor will

Save time and labor.
Eliminate demurrage charges.
Keep equipment moving.
Increase Plant Efficiency.
Increase profits.

Only ONE MAN is required to operate a "Godfrey". The saving in time and labor alone will pay for the system in a remarkably short time.

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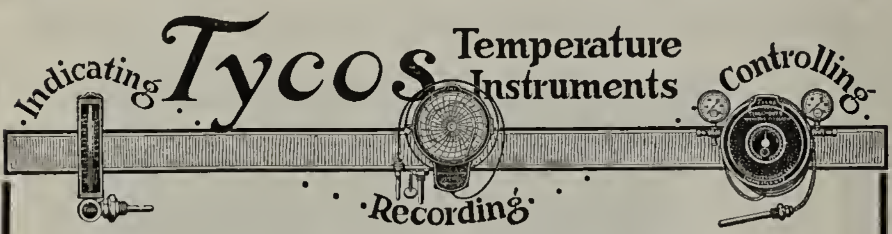


Tycos Base and Rare Metal Thermoelectric Pyrometers can be applied to every kiln whether periodic, continuous or tunnel.

Tycos Pyrometer

Angle and Straight Stem Thermometers for determining temperatures during water smoking period.

Mercury Recording Thermometers for observing dryer temperature.

Draft Gauges for observing and regulating heat control of kilns.

Hygrodeiks, Wet and Dry Bulb Recording Thermometers for determining atmospheric conditions and humidity in dryers.

Viscosimeters, Radiation Pyrometers.

Temperature instruments of all kinds for industrial and general use.

Catalogs contain thorough information on these instruments. A mention of specific needs will bring also constructive suggestions from *Tycos* engineers. No obligation—just request this service.

Taylor Instrument Companies
Rochester, N. Y.

There's a *Tycos* or Taylor Temperature Instrument for every purpose

at mine according to grade, with lump at from $3.50 to $5 a ton according to quality and grade.

Expansion Continues at Maryland Plant

Mayer Brick & Tile Plant, of Frostburg, Md., recently remodeled and equipped with new machinery, is soon to be further enlarged, according to John A. Coldwell, of the Savage Mountain (Md.) Fire Brick Co., which controls the plant. The company was founded by the late Henry Mayer.

Lease Bed of Fire Clay

Hamilton Brick and Tile Co. of Mount Savage, Md., has leased a valuable bed of Mount Savage fire clay, and is making arrangements now to manufacture a line of high grade fire brick. The plant is situated in a section that has been known for years for its good fire clay, and the company has decided to use its facilities to help supply the increasing demands for high grade refractories. Ground fire clay will also be sold for foundry use, and for high temperature furnace work.

Now Is the Time to Build

In discussing the present situation, Warren Griffiss, general manager of the Baltimore (Md.) Brick Co., says that while the cost of building is slightly lower than it was in the spring and summer of 1920, there is no prospect of a return to before-the-war prices. "If I were to advise a friend," he says, "as to whether he should build in the spring or summer of this year, I would advise him to build now. Our price for brick for warehouses, and such buildings, is $22.50 at the yard, and for brick such as are used in dwellings, $18.50. Our price is not going to be higher than that at any time. As soon as we have resumed manufacture after the winter, I shall attack the cost and get it down. But I believe that it will be summer before it will be possible to make it lower. Some of the elements which enter into the cost of brick manufacture are lower. As high as $21 was paid for soft coal last year; now it can be bought for $9.50 delivered in Baltimore. While labor's wages have not been reduced, its efficiency has been so much increased as to make it much cheaper.

Boston Prices Hold Steady

Brick continues to be quoted in Boston at $30 per thousand delivered on the job, but dealers say there is so little stock being moved that this figure is more or less nominal. Everyone is looking toward spring in the expectation of better business conditions.

Organize Brick and Tile Co.

Frank O. Holmes, Hazel E. Morrin, Henry W. Sprague and Francis M. Ryer of Boston, and John Sanjean of Malden, Mass., have formed the Middlesex Brick & Tile Co. of Boston and have secured a Massachusetts charter. The authorized capital is $50,000.

Boston Company to Make Fire Brick

The Lee Fire Brick Co. has been formed in Boston and incorporated under the Massachusetts laws to manufacture and deal in fire brick and other brick, with an authorized capital of $50,000. The incorporators were Seth Lee of Newton Highlands, Mass., Adelmer H. Ward of Quincy, Mass., and Harry N. Gutterman of Dorchester, Mass.

Shuts Down for Winter Season

Having completed all orders on hand for brick and building tile, the Great Falls (Mont.) Brick & Tile Co. has closed down for the winter, a report states. Operations will be resumed when building once more becomes active.

Peculiar Clay Deposits Found in Nebraska

Three distinct kinds of clay formations have been discovered at Wymore, Neb., it is reported. The three colors, red, yellow and blue are clearly distinguished. According to men who have seen this clay, it is of the kind of which high grade Mexican pottery is made. Samples have been sent to the state chemist.

Doubles Capital

Continental Fluorspar Co., of Nevada, a Delaware corporation, has filed notice of increase in capital from $150,000 to $300,000 for proposed expansion.

Form $125,000 Company

The Shield Brick Co., Perth Amboy, N. J., has been organized with a capital of $125,000 to operate a plant in the Raritan River section for the manufacture of building brick. The company is headed by Hans C. Oksen, Fred P. Rearwin and Charles J. Hibbard, of Perth Amboy.

Terra Cotta Company Receives Big Order

The Federal Terra Cotta Co., Woodbridge, N. J., with plant on Cutter's Road, has received a good contract, considering how orders are being placed these days, for furnishing the terra cotta for the church for the Roman Catholic Diocese of Newark, at a price of $109,375. With funds available for the edifice, the work is expected to proceed right along, and will help to insure continued production at the terra cotta works.

Reduction of Output Necessary

The Trent Brick Co., Trenton, N. J., has curtailed operations at its plant for a few weeks to come owing to the slow call for material. The company has had an active producing season, and all thru the fall and early winter period has been manufacturing under normal output. The shut down will give opportunity for necessary repairs to equipment and general clean up, as well as for a number of improvements. The company has recently been extending its line to include the manufacture of hollow building tile, and it is proposed to expand in this line. A. W. Goulding is treasurer and general manager.

Tile Company Expands

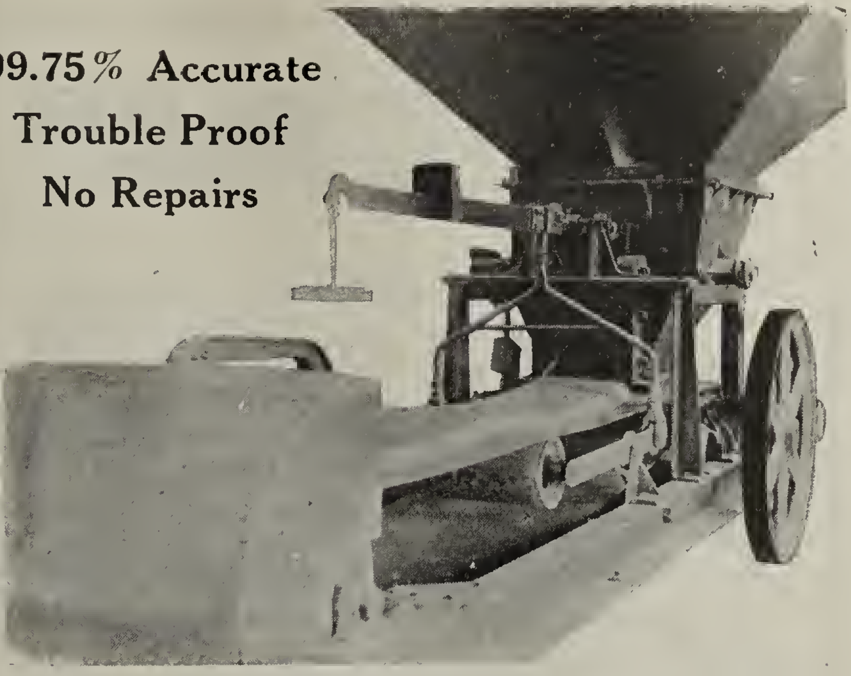
The Olean Tile Co., Olean, N. Y., has filed notice of increase in capital from $20,000 to $50,000 for proposed expansion.

New Company to Make Various Clay Products

The Mahoning Shale Products Co., of Cleveland, has been organized with a capital of $200,000 to manufacture various clay products, including brick and sewer pipe. Incorporators are: J. G. Litzel, E. T. Lawrence, J. A. Neiding, W. W. Richmond and E. I. Cranes.

Will Handle Hydraulic-Press Brick

H. J. Gilbert, associated with the Lytle Brothers, Cleveland, Ohio, and well known in sand and gravel circles, will handle



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THE SCHAFFER POIDOMETER accurately weighs and proportions all raw materials. It is a constant guard to the quality of your ware, a saver of labor AND it is 99.75% accurate.

We employ a staff of engineers which is at your service and which will cost you nothing to consult in regards to the correct mixing of your clay.

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You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

The Roessler & Hasslacher Chemical Company

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Jenkins Standard Brass Swing Check Valve

Figure 352

For 150 pounds working pressure. Fitted with Jenkins renewable discs. The angle of the seat is such that it opens readily at low pressures and the shock of closing under high pressure in the most severe service is absorbed in the line piping. The disc lifts well out of the passage when wide open.

Know genuine Jenkins Valves by the name and Jenkins Diamond Mark—at supply houses everywhere.

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SINCE 1864

Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.
EQUITABLE BUILDING
120 Broadway, New York City

face brick, in addition to his present lines, for the Hydraulic-Press Brick Co. Cleveland branch. The addition of the Hydraulic lines is looked upon by Mr. Gilbert as an added service to his own clients, while the opportunity affords added outlet for Hydraulic products.

Factory Building to be Built in Waynesburg

The National Fireproofing Co., of Waynesburg, Ohio, has taken bids on a new factory building which will cost about $60,000. The plans for the structure were made by the company architects and include a number of modern improvements. The work bid on consists of wrecking the present factory and rebuilding with all of the materials furnished. The construction will be out of fireproof block.

Advocates Building State Brick Plant

In the annual report of J. E. Clark, manager of the manufacture and sales department of the Ohio State Board of Administration, which has charge of all of the state institutions in Ohio, recommendations are contained for a second brick plant to be erected some place in the north central portion of the state. A cement plant with a capacity of 1,000 barrels daily is also recommended.

Change in Ohio Brick Prices

New prices on various kinds of brick have been announced by the Columbus brick manufacturers and dealers. Rough-texture face brick are now sold around $30 to $34, while smooth-texture face brick are quoted around $40. Common brick, which sold up to $24 and $25 several months ago, have been reduced to $20 for sand mold, and $21.50 for shale brick, delivered on the job. The tendency of prices on all clay products is still downward, altho immediate declines are not anticipated.

Dunn Helps Reorganize Gas Concern

Frank B. Dunn, who is well known among paving brick circles as the inventor of the Dunn wire-cut-lug cutting machine, has recently been made president of a gas company. The reorganized North Eastern Oil & Gas Co., of Conneaut, Ohio, has named Mr. Dunn as its president. The reorganization marks the final efforts of several months of negotiating, planning and campaigning in behalf of the Conneaut gas consumers in an effort to save the company's natural gas supply. Mr. Dunn played a very prominent part in consummating a successful reorganization.

Columbus Construction Shows Signs of Life

Prospects for building in 1921 as far as Columbus and Central Ohio is concerned are becoming more promising as the spring approaches. All building supply and brick people as well as contractors, builders and architects are expressing more optimism than was the case several weeks ago. In fact there was a distinct change in the attitude of most business men as far as building goes, just prior to the holiday season and this has been gaining headway after the first of the year. During the holiday season, a number of large building projects were announced for Columbus. Prominent in the list is that of a $750,000 Masonic Temple for the Scottish Rite bodies and Mystic Shrine, on a site located on the Scioto river. Another project is a large building for the Columbus Mill & Mine Supply Co., on Marion Road, a large office building and store rooms by Rowlands Bros., and others fully as large. Almost every day a new project appears which means the expenditure of from $100,000 to $400,000 in construction work.

Plant Closing for Annual Repairs

Three plants in the New Philadelphia district are closed down for annual repairs. They are the Wold-Lanning Co.'s plant and those of the Dennison Sewer Pipe Co. and the Ross Clay Co. in the Uhrichsville, Ohio, field. The plants which will be idle for a month will not throw out of employment the 275 men employed. Many of them will be set to work loading stock in the yards awaiting delivery and will be assigned to repair work. A plentiful supply of cars insures early shipments of orders filled several months ago. All orders could not be shipped then because of the car shortage. A five ton single roll clay crusher has been installed at the plant of the Robinson Clay Co. Its capacity is 200 tons a day.

This week another clay plant has joined the list of those closed down for the annual inventory and clean up for resumption of operations in the spring. The plant is at Sugar Creek, Ohio. Several sewer pipe and brick plants are installing new machinery. Car allotments continue plentiful. All plants will be running full time by March 1, it is predicted by several manufacturers.

Cleveland Wants New Building Program

Marked decrease in building activities in the Cleveland, Ohio, district during 1920, compared with 1919 activities, has caused a change in front on the part of city officials, and individuals connected and identified with the building industry are demanding a discarding of all present plans for the promotion of an active building campaign, and the substitution of an entirely new program.

Foremost of this proposal is the plan for the formation of a new county building commission. Other details include the promotion of new construction to provide for housing the business offices of the city and county. Promotion of this part of the work at once, with a limited expenditure, should have an appreciable effect in restoring confidence in the opinion of F. H. Chapin, chairman of the sub-committee of the city planning commission. Mr. Chapin formerly was Cleveland manager of the Hydraulic-Press Brick Co., and now is connected with Cleveland manufacturing establishments.

Meanwhile need for some method for immediate restoration of confidence appears necessary when building figures for 1920 are compared with those of 1919. One-half as many dwellings were erected in 1920 as were built in 1919. One-quarter the number of apartment buildings were erected. Yet the total cost of construction was approximately 25 per cent. higher than the amount expended during 1919.

From the brick interests' point of view, however, the turn of the year has already brought renewed confidence. The first big contract for face brick is announced this week in approximately 1,000,000 equitable grays to be supplied for the 20-story Cleveland Discount Building, which will take as much material as did the Hotel Cleveland. This is expected to be the forerunner of other like contracts, brick distributors believe.

Active in Spite of General Depression

With plenty of gas to operate on orders ahead for 60,000 brick per day for the next six months, the Collinsville (Okla.) Brick Co. is going ahead with its plans to enlarge its yard and kilns, while other industries nearby are retrenching, it is reported.

Increases Capital Stock $8,000,000

The Standard Sanitary Manufacturing Co., Pittsburgh, Pa., has arranged for an increase in capital from $12,000,000 to $20,000,000. Stockholders have voted to offer 5,000 shares of common stock and 1,000 shares of preferred stock to em-

Perforated Steel Screens
Of Every Description

For Screening Clay, Shale, Sand, Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity, Durability and Satisfaction

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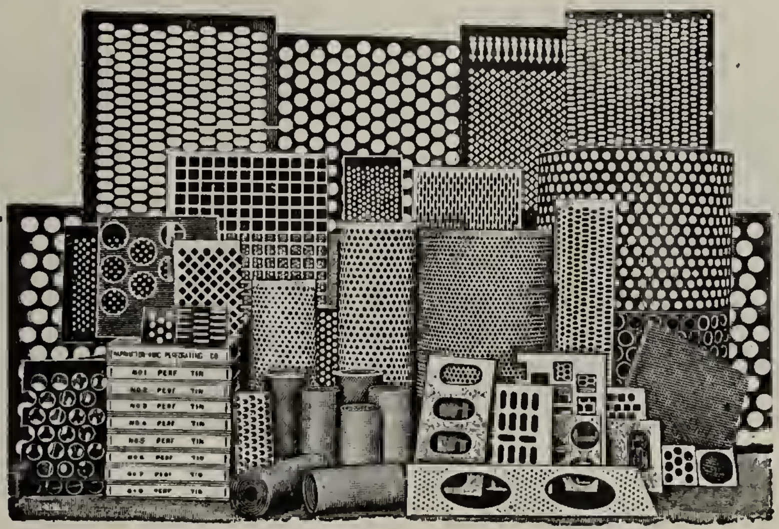

Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?

The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
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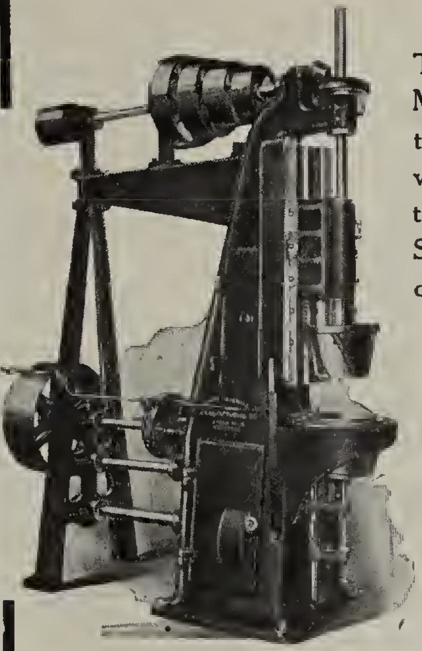

But Few Small Clay Plants

can afford heavy, high-priced machinery. The output of the average small clay plant is not large enough to warrant it.

THE ONE MAN EXCAVATOR solves the problem easily. It is constructed especially for the small plant and it will dig your clay in required quantity, getting a perfect mix of each strata. It is light, economical and reliable as well as efficient.

THE ONE MAN EXCAVATOR in the above cut is digging more clay for the DENSMORE BRICK CO. than eight men formerly did and they write that it could dig twice as much if necessary.

THE ONE MAN EXCAVATOR will pay for itself in a very short time through the savings it effects in labor alone.

Can you afford to stick to old-fashioned, expensive methods?

Write us today for information concerning this labor saver.

Bay City Dredge Works

216-219 Center Ave. Bay City, Mich.

ployes at a subscription price of $125 and $110 per share, respectively.

Organizing Company to Make Slag Brick

An innovation in brick making is to be attempted by three Pittsburgh men and a London, England, man, who are attempting to organize a company, with the view of erecting a plant here. According to brick and clay men, this company will make brick from slag and cinders. It is said the slag and cinders are crushed and pressed one day and ready for shipment the next. The development of this project is being watched with interest by the trade.

Cheaper Labor Remedy for Building Dullness

A resumption of buying in small quantities of clay by steel plants is looked upon by Pittsburgh brick and clay men as an indication that business soon will be on the mend. But the only way to assure a resumption of business on a paying basis, it is contended, is to affect a reduction in labor costs. It is pointed out that clay miners are receiving 65 cents a ton, which is far above the normal scale. Few plants have begun to cut wages, but one leading refractories company has closed down most of its plants and declares that when operations are resumed wages will be on a lower scale.

Becomes Sole Owner of Pennsylvania Plant

In a business deal recently made public, Lee B. Humphrey acquired all the holdings of the Humphrey Brick & Tile Co. and W. N. Humphrey & Co., of Brookville, Pa. It is reported that over 2,100 acres of land with mineral rights, the clay plant of the Humphrey Brick & Tile Co., the office building, some dwellings near Brookville, and, some distance away, twenty-five gas wells and over fifteen miles of gas lines, are involved in the change of ownership.

The Humphrey Brick & Tile Co. was established in 1902 and has been in continuous operation ever since. The product is in demand in many states and even Cuba has been a market.

B. Mifflin Hood Opens Office in Memphis

The Memphis, Tenn., Chamber of Commerce announced some time ago the location of general sales offices of the B. Mifflin Hood Brick Co., of Atlanta, Ga. The offices are in charge of C. W. McDowell and will open for business shortly.

Has Good Hopes for 1921

J. F. Driscoll, general manager of the International Brick Co., El Paso, Tex., recently said, "The year 1920 will pass into history as our banner year, both in the quality and quantity of our production and our volume of business in building materials." Mr. Driscoll is optimistic of the future and believes that the demand by May, 1921, will tax every resource of the construction industry.

Masons Ask for Reduction in Wages

Brick masons employed by the Utah Fire Clay Co., of Salt Lake City, which employs several hundred men, have asked the company to reduce their wages from $10 to $8 a day, according to announcement made by Lawrence Greene, manager.

Seattle Clay Plants Easily Supply Demand

Indications are that the market for brick and other clay products in Seattle, Wash., is not able to take care of the full capacity output of plants in and around the city. These plants look to Seattle and the rest of the state to absorb their products. There are located in this section nine brick and tile plants and at present, all but two of these are closed down.

Two of these plants are equipped to produce twelve million brick per year or the equivalent in tile. The full quota has never been produced, however, as the market would not absorb their products to this extent.

Fire Threatens Suburban Brick Works

One of the kiln sheds of the Suburban Brick Works, Wheeling, W. Va., was discovered in flames. Prompt action by the local fire department extinguished the flames and the resultant loss was small.

Addition to Ontario Clay Products Family

The Clay Products Co. Ltd., Port Dover, Ont., has been incorporated with a capital of $80,000 to manufacture brick and tile.

Back From French Lick Convention

John S. McCannell, president, Milton (Ont.) Pressed Brick Co., has returned from the convention of face brick manufacturers at French Lick.

Will Make Variety of Clay Products

Canadian China Products, Ltd., Toronto, has been incorporated with a capital of $300,000 to carry on the business of manufacturing brick, tile, pottery, earthenware, ceramic ware, and so forth.

Citadel Company Secures Brick Contract

The Citadel Brick and Paving Block Co., Quebec, Can., have been awarded the contract for brick for the new $2,000,000 addition to Chateau Frontenac, Quebec.

English Brick Makers Sell With Low Profits

In Great Britain inquiries have been made into many lines of industry. A parliamentary committee investigating the status of brick manufacturing found, according to a detailed report received by the Bankers Trust Co., New York, that advances of 100 to 150 per cent. in the price of brick were largely due to a 180 per cent. rise in wages and a 270 per cent. increase in the cost of fuel.

Despite the higher selling price of brick, profits were considered low. The sub-committee estimated that the complete elimination of the brick manufacturers' profit would not reduce the cost of building a workingman's cottage more than £10.

Export Values Show Huge Increase

United States Secretary of Commerce recently submitted the eighth annual report for the fiscal year ending June 30, 1920. The paper says in part:

"Unprecedented totals were attained in American foreign trade during the fiscal year 1920. The merchandise that passed thru our port, in both directions, was valued at $13,349,661,401, exceeding by more than $3,000,000,000 the highest previous figure, which was recorded in 1919. Imports of merchandise totaled $5,238,621,688, as compared with $3,095,720,068 in 1919 and $2,945,655,403 in 1918. Domestic exports amounted to $7,950,429,180, as against $7,081,461,938 in 1919 and $5,838,652,057 in 1918." Estimated appropriations required by the department for the fiscal year 1922 were placed by the secretary at $30,383,481, an increase of $10,121,712 over those of this year.

PEABODY
COAL COMPANY
Founded 1883

WE
MINE AND SELL
GOOD COAL

Chicago
Cincinnati
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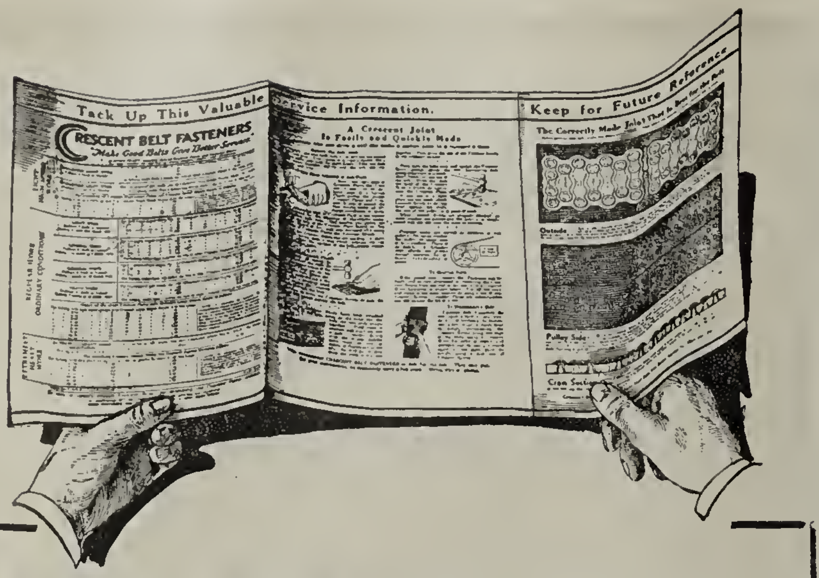
36 Mines

Annual Capacity Eighteen Million Tons



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As a practical man you know that no belt can give better service than its joint.

To enable you to get the *maximum* of service out of your belting, we have prepared this booklet—"Modern Scientific Methods of Belt Joining."

It actually *informs*—rather than argues.

Absolutely devoid of vague theorisms and selling buncomb, it gets right down to brass tacks in the "how" and "why" of making belt joints with Crescent Belt Fasteners that will *hold* for the life of the most durable belt; joints that will not weaken the belt; belt joints that will run the same as endless on the pulley side, without noise, clatter or thumping; belt joints that will insure maximum power transmission and continuous production.

Every condition of belt service is completely and accurately covered, and classified for *instant reference.*

"Modern Scientific Methods of Belt Joining" in your Belt Room will mean dollars in your pocket.

A copy is yours for the asking. Just tell us to send you Booklet W.

Crescent Belt Fasteners will be sent on 30 days' free trial. Advise us the width and thickness and pulley diameters on any drive you would like to try them. No charge or obligation involved, until after 30 days you are entirely satisfied.

Crescent Belt Fastener Co.
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CRESCENT
Make Good Belts Give Better Service
BELT FASTENERS

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

Results from Godfrey Conveyor Contest

Recently announcement was made of a contest being conducted among users of the Godfrey Conveyor—in judging the contest the following points to be taken into consideration: namely, weight of coal, size of lumps, distance bucket was raised, lowered and conveyed, the size of motor that was used for power and the time consumed in the operation.

Very interesting facts were presented, and it is with a feeling of just pride that the Godfrey Conveyor Company has announced the winners, and following the name of each company is just a brief resume of the conveyor experience on which the winning was obtained.

FIRST PRIZE $50.00.

Hilligoss & Son of Shelbyville, Ind., on November 24, 1920, unloaded 96,600 pounds of lump coal and conveyed it to storage 87 ft. from the railroad siding in one hour and eighteen minutes. Each bucket was raised and carried at a height of 30 ft. and lowered to the ground storage.

SECOND PRIZE $25.00.

The Finch Coal Co., of Kokomo, Ind., on November 19, 1920, unloaded 94,200 pounds of lump coal and conveyed it to storage 150 ft. from the railroad siding in one hour and forty minutes. Each bucketload was raised and carried at a height of 50 ft. and lowered to ground storage.

THIRD PRIZE $15.00.

W. G. Block Co., Fairfield, Ia., on November 30, 1920, unloaded 103,000 pounds of large egg coal and conveyed it to storage 50 ft. from the railroad siding in one hour and thirty minutes. Each bucket load was raised and carried at a height of 50 ft. and lowered to ground storage.

FOURTH PRIZE $10.00.

Fred Scherer, of Ottawa, Ill., on November 18, 1920, unloaded 96,800 pounds of lump coal and conveyed it to storage 32 ft. from the railroad siding in one hour and thirty-two minutes. Each bucket was raised and carried at a height of 56 ft. and lowered to the bottom of the storage bins.

FIFTH PRIZE $10.00

Edwards Coal Co., of Ames, Ia., on November 18, 1920, unloaded 96,600 pounds of large egg coal and conveyed it to storage 40 ft. from the railroad siding in one hour and twenty-eight minutes. Each bucket load was raised and carried at a height of 40 ft. and lowered 24 ft. to storage.

SIXTH PRIZE $10.00.

Quincy Coal Co., Quincy, Ill., on November 4, 1920, unloaded 93,600 pounds of large lump coal and conveyed it to storage 110 ft. from the railroad siding in two hours and fifty-seven minutes. Each bucket load was raised and carried at a height of 52 ft. and lowered to bottom of storage bins.

FIRST HONORARY MENTION:

W. J. Baker Co., Janesville, Wis., on November 18, 1920, unloaded 133,400 pounds of lump coal and conveyed it to storage 70 ft. from the railroad siding in three hours and five minutes. Each bucket load was raised and carried at a height of 40 ft. and lowered to ground storage.

SECOND HONORARY MENTION:

Manhart Coal Co., Northfield, Minn., on November 9, 1920, unloaded 93,740 pounds of anthracite stove coal and conveyed it to storage 20 ft. from the railroad siding in one hour and forty minutes. Each bucket load was raised and carried at a height of 40 ft. and lowered to the bottom of pockets.

* * *

In the August 24, 1920, issue of *Brick and Clay Record* appeared an article describing the Northwestern Terra Cotta Co., and it has just been brought to our attention that the complete fuel oil system used for the American Dressler continuous tunnel kiln, including a 25,000 gal. concrete reservoir, duplicate pump and piping system, water-cooled burners, etc., was designed by C. A. Hoppin & Company, Inc., Peoria, Ill.

Also at the present time this company of engineers and constructors are completing a similar installation on a tunnel kiln for the Abingdon Sanitary Mfg. Co., Abingdon, Ill.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

THE NEW SOLID BRICK HOLLOW WALL

ALTHO HOLLOW wall construction with solid brick has been known for a long time and used before, no real progress has heretofore been made because the disadvantages which always accompanied each new type of hollow wall design, offset to a large extent any advantages gained. It is too early yet to pass judgment on the new innovation brick hollow wall which has been developed in Los Angeles. Probably not all of its merits and demerits have been unearthed as yet. However, indications point to the finding of a practical solution of constructing a brick hollow wall by following the principles of design advocated in southern California.

A description of this new design is covered in an article appearing on another page of this issue. The Los Angeles Brick Co. has investigated the new wall thoroly and has stamped its approval on it as is well illustrated in the advertising campaign which this concern has instituted in favor of the brick hollow wall.

It is pointed out that the savings accompanied by this type of brick wall construction are considerable. In fact, the new masonry construction, puts a brick wall on an entirely new basis. It enables brick to compete with lumber, cement, or stucco in first cost. The Los Angeles Brick Co. claims that in southern California it actually makes a *brick house lowest in first cost* when compared with other types of construction. This should mean a big thing for brick provided the beauty and comfort of the wall is not sacrificed.

There is one thing that should be pointed out. Wherever the brick hollow wall construction is substituted for a wall that would otherwise have been built of brick solid construction, there is a reduction in the number of brick purchased. Approximately only three-fourths as many brick are sold for a brick hollow wall structure. However, the increased popularity of brick construction because of its economy, beauty, prominence, better investment, and so forth, would undoubtedly offset this loss and in the end, the use of brick would actually be increased considerably.

When referring back to those statistics which point out that the total number of residences constructed in the United States, over 89 per cent. are not of brick, it is easy to understand the possibilities for the brick manufacturer, when the only argument against brick—that of first cost—has been removed.

We sincerely hope that the new brick hollow wall construction is highly successful and absolutely practical.

* * *

WHY NOT A FULL-TIME SECRETARY FOR A. C. S.?

THE NUMBER of persons holding membership in the American Ceramic Society who believe that the time is at hand now when that organization should appoint a full-time secretary, is increasing daily. When the plan of having a full time secretary was first suggested a few years ago the idea was not received very enthusiastically.

Since that time however, the Society has grown tremendously both numerically and in the scope of its work. An examination of the activities now covered by the American Ceramic Society reveals merit to the thought of employing a full-time secretary to handle its various affairs. This body has done remarkably well under its present secretarial management and a deep appreciation of gratitude is due to the popular Professor Binns and Miss Binns for the splendid services they have so willingly and unselfishly rendered the Society and which it is doubtful could have been equalled by any other persons.

The American Ceramic Society now stands at a point, where to go ahead, practically means the necessity of one man and perhaps several assistants, giving his entire attention to society business. The duties of editor and advertising manager of the Journal would alone keep one person busy. The further development of the various divisions and of research work would, under the supervision of one person as regards to the business details, be facilitated to the advantage of the ceramic industries and to the convenience of the society.

The advisibility of having a central office responsible for the management of all society affairs, instead of usurping the time of those whose spirit of loyalty is so great that as officers of the American Ceramic Society they sacrifice to their personal disadvantage, much time and attention from their own business affairs, should be readily apparent.

The plan of having a permanent secretary-manager works well with industrial organizations. There certainly must be some scheme patterned after the secretaryship of an industrial organization that is adaptable to the American Ceramic Society. The office could undoubtedly be made self-supporting and would mean a new forward step in the progress of the society.

* * *

WHERE BEAUTY IS THE FITTEST

DR. C. T. CURRELLY, Director of the Royal Ontario Museum in Toronto, when recently escorting a delegation of clay workers thru the exhibits of ancient clay ware shown at the museum stated very aptly that "nothing that is not beautiful survives the test of time." He illustrated his point by referring to some of the work of the clayworking craft in the days when Egypt, Greece, China and Turkey were leaders in the art of pottery making.

It was noted that the use of silver plates and goblets were superceded when the native made the beautiful pottery which was characteristic of some of the periods of those days. However, in those times when the art of making pottery deteriorated to the extent that the ware was no longer beautiful, the populace again returned to the use of silver plates.

Dr. Currelly stated that the use of inferior goods might continue for fifty years or more but the time would soon come when the material of beauty won out.

These statements pay a tribute to clay ware which has survived thousands of years of time's test as to beauty and utility, for the latter factor is also an important one. Herein is also a good argument for the clay manufacturer who is bothered by competition with other materials. Way back to the days before the building of the pyramids, fads or substitutes have come to enter into competition with clay ware but the use of clay products has withstood the test of time and found to be not lacking in quality.

Even with tools more crude and less accurate than present-day apparatus, quality was demanded in the days when history was written on clay tablets. As it was then, it is now and quality must be maintained by those manufacturers who aim to succeed.

* * *

THE PUBLIC WILL DECIDE WHETHER BUILDING WILL RESUME

WITHOUT DOUBT one of the reasons the public is refusing to build is the general belief that, in addition to being higher than ever before, labor has so decreased in efficiency that only about fifty per cent. of the pre-war standard is reached.

An article in the Philadelphia "Record" speaks on this subject as follows: "Prior to the war, bricklayers laid an average of about 1,200 brick in a day of eight hours, at a cost of sixty to sixty-five cents an hour. Today the maximum day's work for a bricklayer under union rules is 600, and the rate of wages $1.30 an hour.

"In other words, it cost $5.20 in pre-war times to lay 1,200 brick, while to day it costs $20.80 to lay the same number in twice the time, and it must not be forgotten that time is an important factor in the carrying out of a building contract. So, in order to get as much work per day done in 1921 as was done in a day prior to 1917, the employer must put on twice as many men, and pay out four times as much money."

It is certain that as long as this idea of greatly decreased efficiency and as a consequence, greatly increased cost, prevails among the public and receives publicity in the big daily newspapers of the country, a great amount of capital will be witheld from, or put to use in other fields than where it is most urgently needed—the building industry.

In the opinion of many, labor is now the deciding factor in the building problem. Prices of materials in most cases have come down as much as is consistently possible and it now remains for labor to see the light and accept a reduction at least commensurate with the reduction in the cost of living. Labor should now ask itself the question, "Do we want little work at high wages, or do we want steady work at a fair scale of wages, and give a fair day's work for a day's pay?"

The truth of this is beginning to be realized and several instances where labor has voluntarily offered to reduce its wages have come to light. On the other hand there have been cases where an increase has been demanded, but the conditions of the building industry has been such that in only a few cases has it been possible to enforce these demands.

It is generally acknowledged that as there is an abundance of office and industrial buildings, the "building boom" in 1921 will come from the building of homes of which the United States is approximately 2,000,000 short. In order for this building boom to materialize it is necessary to convince "Mr. and Mrs. Common People" that the time is ripe for them to build their home. As long as the public harbors the idea that it is not getting full value for every dollar expended in the construction of a home; that by waiting another six months or a year prices will be considerably more advantageous than now, the "building boom" must necessarily be delayed. Under these conditions it would seem that the clay products manufacturer should direct his attention to the ordinary person walking the streets of our cities and villages, in any advertising he may do.

The Mason Contractors' Association of the U. S. and Canada has gone on record to the effect that journeyman bricklayers in the U. S. and Canada are now producing an amount of work that compares favorably with that of pre-war days.

It is as vital to the interests of the brick manufacturers as it is to the bricklayer himself that the public be convinced that the efficiency of the bricklayer has again attained its old standard.

* * *

TO STUDY BRICK WALL DESIGNS

SINCE WRITING our editorial on the new solid brick hollow wall, the annual convention of the Common Brick Manufacturers' Association of America has taken place in New York City. The outstanding feature of this meeting was the description and demonstration of several types of solid brick hollow wall construction modeled after the Los Angeles type of brick hollow wall which is described on page 210 of this issue.

Brick manufacturers present at the meeting who studied the designs were enthusiastic as to the possibilities of these new types of wall construction and all of them felt sure that the designs are entirely practical for one and perhaps two story houses. But before these new forms of masonry construction will come into general use, certain local conditions will have to be met. Building codes will have to be changed and climatic and other local conditions must be considered.

The Common Brick Manufacturers' Association of America is planning on making tests and going over the designs carefully so that all defects will be ironed out before the construction is advertised widely. The association is to be commended for taking this wise step since one failure might put a serious crimp on the acceptance of this wall by the public.

* * *

PRINTER'S INK PUSHING USE OF COMMON BRICK

THOSE WHO SAW at the New York convention the exhibit of literature prepared and distributed by the Common Brick Manufacturers' Association of America, must undoubtedly have been amazed at the enormous quantity of advertising matter that has been published in the interest of common brick.

Pamphlets, booklets, leaflets, house organs, monthly digests, letters, blue prints, and so forth, make up the wide variety of literature designed to carry the message of common brick. This material reaches the architect, engineer, contractor, builder, general public and building supply dealer. In each instance the message is prepared to appeal to the particular field it is directed to.

The constant distribution of this vast amount of material is certain to have its affect on its readers. Common brick manufacturers have erred in the past, in assuming that their material, being a basic building commodity, was too well known and too essential, to need any publicity, The response that the campaign in behalf of common brick thus far carried on, has received is conclusive evidence of the need for the literature being distributed thru the various channels used by the Common Brick Manufacturers' Association.

Manufacturers who have supported this association's interests since its inception, are very enthusiastic as to the results already obtained and the possibilities of the organization. The faith and enthusiasm of one manufacturer with regard to what the Common Brick Manufacturers' Association of America can and will do in behalf of common brick is well illustrated by his continued membership in the association with annual dues of $25,000.

C. B. M. A. SHOWS TANGIBLE

Demonstration of New Designs for Brick Wall Construction Im
Charles H. Bryan Elected President of C. B. M. A.—Joint Meetin

SECRETARY STODDARD'S REPORT of the activities of the Common Brick Manufacturers' Association, the trump card of which was the announcement and exhibition of a new type of brick wall construction,—one that would enable the home builder to erect a brick house cheaper in first cost than one of frame, featured the well attended and enthusiastic joint convention of the C. B. M. A. and the N. B. M. A. The combination meeting of these two associations took place at the Hotel Pennsylvania, New York City, on January 31, February 1, 2, 3 and 4 with representatives present from all parts of the country including several from clear across the continent—the Pacific Coast, and some from Canada.

The first public session of the meeting was held under the auspices of the N. B. M. A. and opened to the call of President W. K. Hammond of New York on Tuesday morning, February 1. In making the address of welcome in behalf of the mayor, Hon. Fiorello H. La Guardia, president, board of aldermen, New York City, dwelled on the distrust of one person for another during the present period. He referred especially to the present investigation of building construction in Gotham which was tying up needed construction and asked the brickmakers present to make a public statement as to the cost of brick that would hold for the entire building season.

NEW YORK CITY NEEDS HOMES

Maj. La Guardia stated that there was enough demand for dwellings in New York City to keep brick manufacturers busy all season long if the building of them would go ahead. He also hoped that it could be arranged that more favorable railroad rates could be granted to building materials and urged the brick manufacturers to call the bluff of congress which pretends to find a solution to the building problem, by urging them to rearrange rates on building materials.

Vice-president Obermeyer, Illinois Brick Co., Chicago, in reply to the address of welcome, showed that altho the layman sees an immense quantity of brick in the wall of any large structure, the brick cost is only a small part of the entire building. People do not see what is inside of the huge walls.

TOO MUCH COMPLICATED LEGISLATION

The much revered and eloquent Mr. Hammond claimed that he had prepared no president's address but in his impromptu speech he moved his audience to a tremendous ovation because of his timely message filled with satirical witticisms. He declared that the present trend of government was toward too much legislation, formulated because of public suspicion and distrust which predominates to too great an extent for the welfare of the nation. He advocated the regulation of industry and business by general rules, simple but strong, citing as his example the rules laid down by the Creator which numbered only ten.

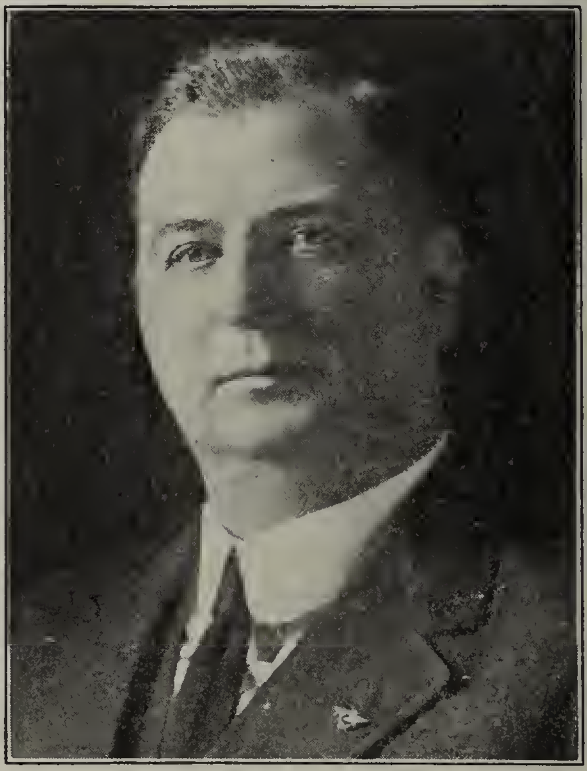
Five investigation committees, Mr. Hammond pointed out, have been in action during recent months examining the building situation in New York City. Good names have been besmirched and the newspaper publicity which has been given to investigations has throttled the building industry to an extent that it is almost stagnant and unjustly so. Commissions should be abolished, Mr. Hammond said, and the individual must come back into his own.

Oswald Spier, managing director, National Terra Cotta Society, explained the work now being carried on by his association which has recently taken on a new lease of life. They are working along three lines chiefly: Educational, advertising and research. The students at various colleges who will be the architects and engineers of the future, are being supplied with information on terra cotta which was never available to them before. This literature is doing much to inform these students as to the possibilities of terra cotta of which most of them were entirely ignorant heretofore.

ADVERTISE TERRA COTTA

National advertising was being resorted to, to tell the people what terra cotta is and how it may be used to beautify structures. The "Literary Digest" is one of the national popular magazines used to tell the message of the terra cotta manufacturers.

Two fellowships have been established at the Bureau of Standards for research work in terra cotta. These fellowships are supported by the National Terra Cotta Society and are doing work of special application to the terra cotta business.


CHARLES H. BRYAN.

In their promotion of terra cotta the association is also advocating the use of common brick for backing up purposes.

Oswald Spier, who delivered the address on Terra Cotta, of which the above is a resumé, was to have left that same

VIDENCE *of* PROGRESS

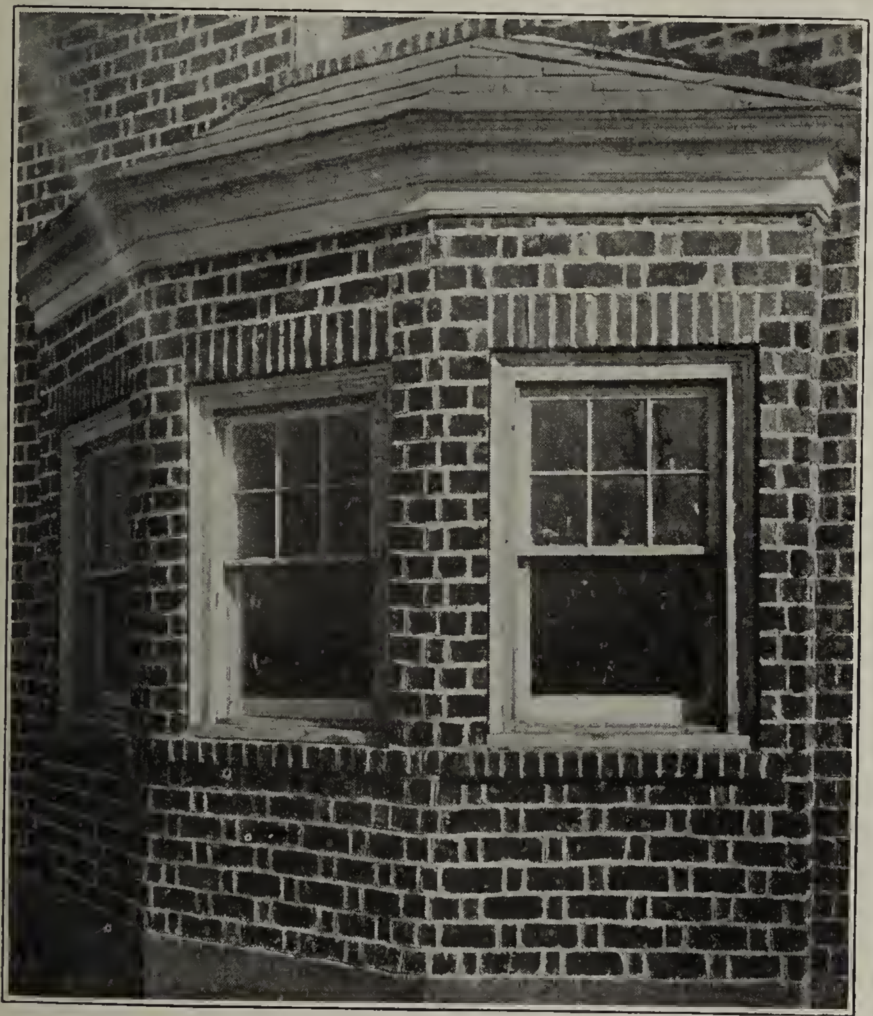
resses Common Brick Producers of New Possibilities for Brick—
New York City Shows Intense Interest in C. B. M. A. Activities

night to attend a meeting of the National Terra Cotta Society in Chicago. Fate willed otherwise, however, and delegates to the New York convention will be shocked to learn that Mr. Spier died very suddenly the same day on which he addressed the N. B. M. A. meeting.

At 11:50 a. m. the meeting without adjournment was turned over to President Schlake of the C. B. M. A. who appointed Vice-President Bryan to act as chairman. Allen E. Beals, Dow Service, New York, one of the foremost building authorities in the United States, then delivered a splendid talk on the subject of "Business; Retrospect and Prospect". Mr. Beals' address is printed elsewhere in this issue but briefly, he stated that for the most part industrial and railroad construction would not take place this year but that home building will be active because of the unprecedented demand. He quoted government figures to show that there was a potential housing demand of 1,220,000 homes.

HOME OWNERSHIP DWINDLES

He also showed that whereas in 1910, fifty-two per cent. of the nation's population owned their homes, in 1921 this figure has dwindled down to only thirty-eight per cent. It was also stated that of all various building materials, linseed oil is the only commodity that has been over-produced. He predicted another stampede for materials as occurred last year, but that 1921 would be a tardy year for construction.


The Hollow Wall Is Not Limited in Features of Construction Any More Than the Solid Wall. The Bay Window in the Above Picture Is Very Neat Appearing.

The prices of most building materials, Mr. Beals stated, were down to the 1919 level and would go down no further. He said that prices of commodities in other lines such as clothing, shoes, automobiles, etc., were down because they have been over-produced.

Some salesmanagers of building commodities have recently guaranteed their customers that there would be no more price reductions on their products before October 1. On the other hand, it was hinted that prices may go up instead of down.

The deplorable situation in the construction industry, Mr. Beals recalled to the delegates, was the building loan conditions. Bankers condemn the manufacturers of materials for high prices, profiteering, etc., yet they charge an exorbitant commission for their loans. A case was cited where the builder was required to pay a $50,000 bonus to obtain a loan of but $450,000. Mr. Beals felt that the loan situation would be alleviated greatly if the Calder Bill, now before Congress, advocating that fifty per cent. of the postal savings be made available for building loans on home construction, were passed.

WOMAN GIVES ADDRESS ON CONSTRUCTION

The novelty of having a woman address the delegates was injected into the convention at this point. Miss Estelle T. Weeks, Hoggson Bros., New York, builders of bank and other buildings, spoke on "What the Construction Industry Has Meant in the Past and What It Is Today". Miss Weeks told of the importance of the building industry ever since the beginning of man and traced its history from the days of road building in ancient Rome and of building in Egypt to the present. She urged the brickmaker to support heartily the construction industry saying that the brick industry cannot flourish unless construction flourishes.

What the construction industry needs most today, Miss Weeks declared, is: Public confidence based on adequate information; right leadership in construction operations, in material industries and in labor organizations; immediate recognition and support by those who control our national and local financial policies; legislation which will wipe out all outlived or unjust restrictions on construction loans; and new heart, new courage, practical ideals and a band of men putting their best efforts into making construction and all related to construction four-square to the world, with one keynote—"We gain nothing unless we serve".

HOW THE "LITERARY DIGEST" GREW

How the "Literary Digest" gained a 250 per cent. return on advertising was explained with the aid of stereopticon views, by George W. Small whose remarks proved the great value of proper advertising. He showed how from the years of 1890 to 1915 the magazine showed only a steady normal growth. After an extensive advertising campaign the number of subscribers increased beyond all expectations of even the most enthusiastic and ardent advocator of the campaign. Thus from 1915 to 1920, unprecedented increase in circulation resulted from intensive advertising.

On Wednesday morning the convention continued with the C. B. M. A. in charge of the program. Ernest S. Barkwill, Cleveland, treasurer of the association read his report and emphasized the need for members paying their assessments promptly. He stated that the assessment was a legitimate item of debit to the sales cost of brick just as much as is the salary of a brick salesman. These assessments must be paid for the economic security of the industry and the splendid publicity campaigns in behalf of other building materials, should be an example of what can and should be done for the common brick industry.

This Large Home Built with Brick Hollow Walls Illustrates Another Type of Construction, Embodying Also a Change in Outward Appearance From the House Shown in Another Part of This Issue.

AN ARDENT SUPPORTER OF COMMON BRICK

The report of technical work in behalf of the common brick industry was given by D. Knickerbacker Boyd, Philadelphia, whose work in behalf of the industry has been of tremendous value to the business. Mr. Boyd was limited in time in giving his report which showed of the splendid co-operative work he was doing with the various architectural bureaus. Investigations are being made as to repairs and obsolescence of various types of construction and it was stated that the average figures of maintenance costs show that for brick houses it is .8 per cent. while for frame it amounts to 2.5 per cent.

The co-operation given to the Bridgeport Housing Commission has resulted in the choice of brick as the building material for the outer walls of houses to be erected by that commission. The preparation of a series of handbooks on brick for students of the International Correspondence School reaching over 80,000 men was also mentioned.

SPECIFICATIONS FOR SEWER BRICK

Mr. Boyd told of the investigations being made as to lime mortar, the furring of brick walls and the strength of walls. He stated that a standard specification for sewer brick was being devised by the American Society for Testing Materials.

The vital necessity for lowering the cost of construction of homes for people of small means was emphasized in this report. An investigation revealed that in thirty cities of the country, the building ordinance permitted the building of eight and nine inch walls of brick. All remaining cities included in the investigation, numbering about sixty, required thirteen inch brick walls. The whole town of Bridgeport, Conn., Mr. Boyd stated, would swing over to brick construction if the eight inch wall could be used in building homes.

STODDARD'S WORK COMMENDED

After receiving an ovation seldom given to any man, Ralph P. Stoddard, in whom the moving spirit of the association is centered, gave his report which was received with considerable appreciation by the membership. He announced that the U. S. Department of Justice had investigated the records of the C. B. M. A. and that after reading over the minutes of the various meetings of the board of directors and other matter, the organization had been given a clean bill of health and stated that there was absolutely nothing wrong with the management of its activities.

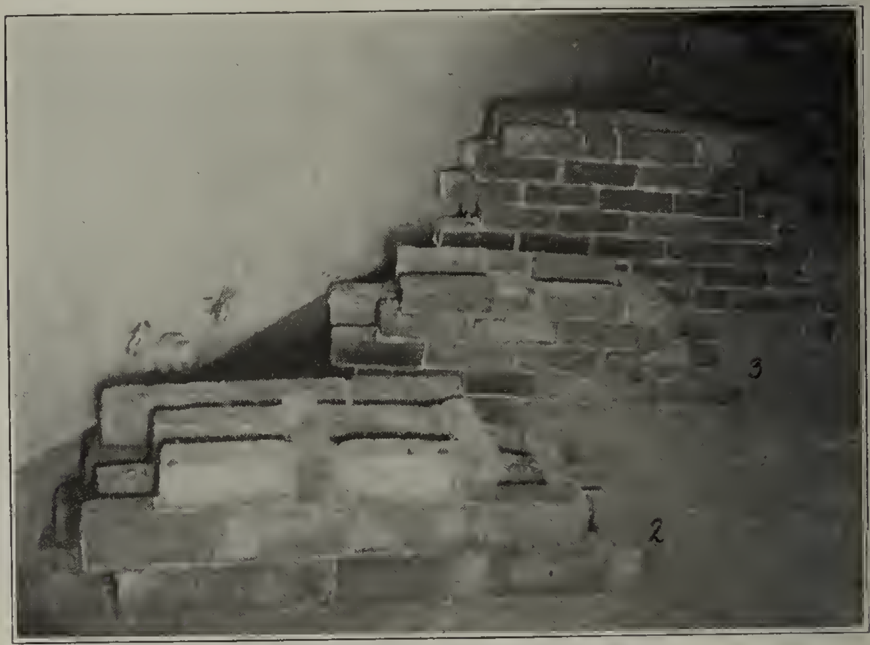
A brief reference was made to the various literature published by the association during the past year and it was stated that henceforth, the monthly organ "Building Economy" would be published in a new form and would appeal to the interest of architects, builders and contractors.

The growth of membership from 263 in 1920 to 340 in 1921 was mentioned as an indication of the approval the industry was giving to the work now being undertaken in behalf of the common brick industry. The production of common brick in 1920 made by members of the C. B. M. A. amounted to 2,290,917,000 brick, which is over one-half of the nation's entire production. It is expected that over $110,000 will be raised this year for pushing the use of common brick and for the maintenance of the association's offices.

During the course of the past year books and plans to the amount of over $7,500 were sold to the general public due to inquiries obtained thru advertising. Blueprints of house designs were sold to 2,104 persons.

NEW BRICK WALL CONSTRUCTION

The design of new types of brick wall construction were explained by Mr. Stoddard who stated that while the principles were not new since some of them have been in use for many years, the brick hollow wall has never been pushed and developed to its full possibilities. The competition offered by concrete block in southern California brought about the development of a hollow brick wall by manufacturers in that territory which is especially featured by the Los Angeles Brick Co. From this wall, new designs embodying the same principles of construction have been worked up so that there are now available several different types of hollow wall construction. Because they are damp-proof and dry no furring is required. This feature alone, effects a big saving.



Showing View of Exposed Face of Several of the New Types of Masonry Work Demonstrated at the New York Convention.

The new construction permits the erection of a home of brick which is even *cheaper in first cost* than one of frame. This, heretofore, has not been possible. It is thought that the development of this new wall will mean the construction of thousands of homes of brick which otherwise would have been built of substitute materials.

The association will get out literature describing the design and construction of the new wall so that builders will readily understand the proper method of using the brick hollow wall. It is stated that there are no complications in laying the brick and that as many brick can be laid per hour as in the solid wall.

TECHNICAL RESEARCH

Mr. Stoddard also announced the arrangement that has been made whereby the C. B. M. A. will join with the American Face Brick Association, Hollow Building Tile Association, National Paving Brick Manufacturers' Association and the Clay Products Association in the organization of a technical committee on research which under the direction of A. V. Bleininger will endeavor to find methods of improving the product or of manufacture.

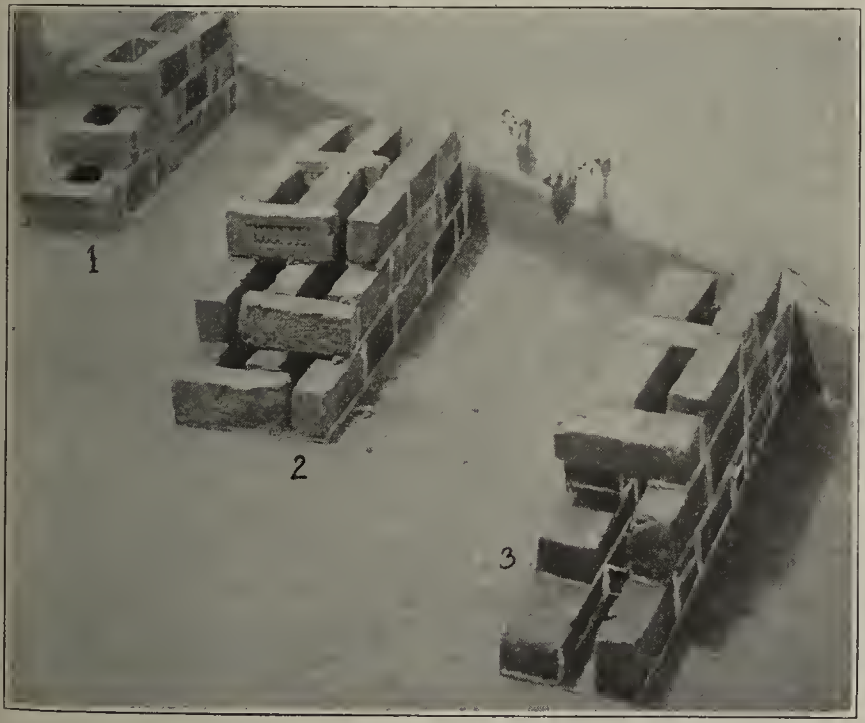
At the invitation of Secretary Stoddard, R. P. Miller, superintendent of building construction, New York City, and Ira Woolson of the National Board of Fire Underwriters gave their views on the new brick wall and while neither of them would endorse it, they did not feel that the wall was not feasible. Mr. Woolson also recalled that thus far no demonstration has ever been made to ascertain the relative strength of eight inch or twelve inch walls.

U. S. HAS IMMENSE FIRE LOSS

Mr. Woolson at an N. B. M. A. session also took occasion to point out the immense fire losses in the United States which amount to over $300,000,000 annually or $300 per capita compared to 33 cents per capita in Europe. The fire insurance which must be paid on policies it was pointed out by Franklin H. Wentworth, Boston, Mass., must be added to the cost of the manufacture of goods and that in this manner the American public is paying enormous sums of money because of lack of proper fireproof construction.

At this time there was passed a resolution approving the recommendations of the National Board of Fire Underwriters for an ordinance for construction of chimneys suitable for use in cities and towns of any size.

A paper read by E. L. Winslow, New York City, on brick paved highways and discussed by C. P. Mayer and Mr. Perkins showed some good forms of highway construction and emphasized the superiority of paving brick over other materials of construction for road building.

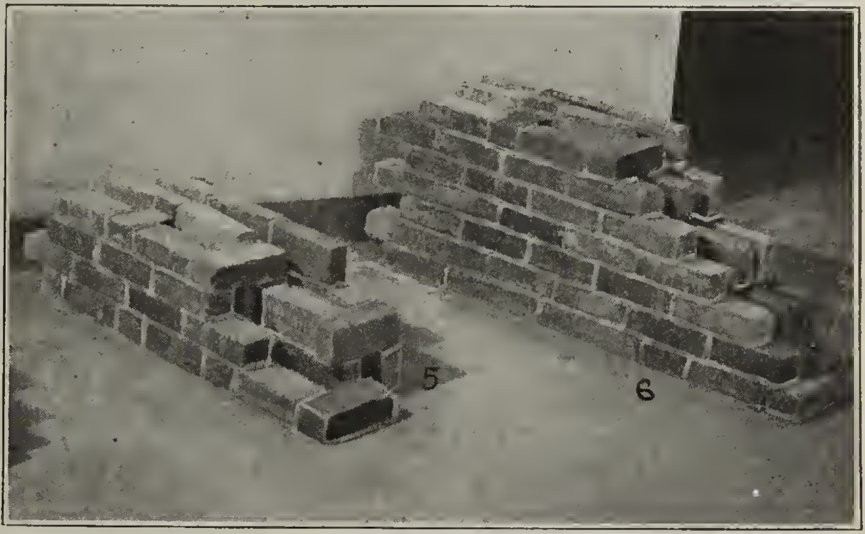


Top View Showing Construction Details and Also Bond of Interior Face of Several of the New Brick Hollow Wall Designs.

At a session of the common brick association there was exhibited a chart showing the distribution of magazines in which association advertising appeared in the various cities in which common brick plants were located. An examination showed that on the average, there were thirty-three per cent. of the town's population who were readers of the magazines in which advertisements promoting the use of common brick, appeared.

CONTRIBUTES $25,000 TO ASSOCIATION SUPPORT

President Schlake at this point mentioned, not for the purpose of boasting but to show his enthusiasm and faith in the work being done by the organization in promoting the use of common brick, that his concern paid as dues to the association last year the sum of $25,000, all of which has been paid in. He urged other manufacturers to jump into the band wagon and keep up the good work of the association.



Exposed Faces of (3 to 1) and (6 to 1) Rowlock Backing Hollow Brick Wall Construction. Interior Bonds Are Similar to Interior Bonds of Combination of Walls No. 1 and 2.

William Burr, Ernst & Ernst, cost accountants, delivered a paper on simplified cost accounting for the common brick manufacturer. By reason of the experience this concern has had in installing cost systems on face brick plants, Mr. Burr was able to give some precise methods of figuring costs that were practical for the common brick maker. He made three general divisions of the brick business such as: 1. General overhead. 2. Departmental, which included the processing departments, and 3. Distribution, which included costs not in manufacturing but in selling, etc.

The tunnel kiln came up for discussion at this point and C. H. Whitescarver, Williamson, W. Va., described the installation of an Owen's type of kiln which had been built for burning common brick but which has proved an absolute failure, he declared. The brick are not burned hard in the center of the car, many bats and broken brick result and the time of burning is nowhere near the promised period.

BRICKLAYER ADDRESSES CONVENTION

How the bricklayers are striving for a betterment of their trade from within, was told by D. Knickerbacker Boyd who spoke of their various committees all appointed to work on some phase of the bricklayer's problem which would elevate the trade and make it more desirable to enter. It was pointed out that thousands of men have left the bricklayer trade for work in post offices, on street railway systems, etc. That the contractors have discouraged the bricklaying trade by various rules and regulations was also mentioned.

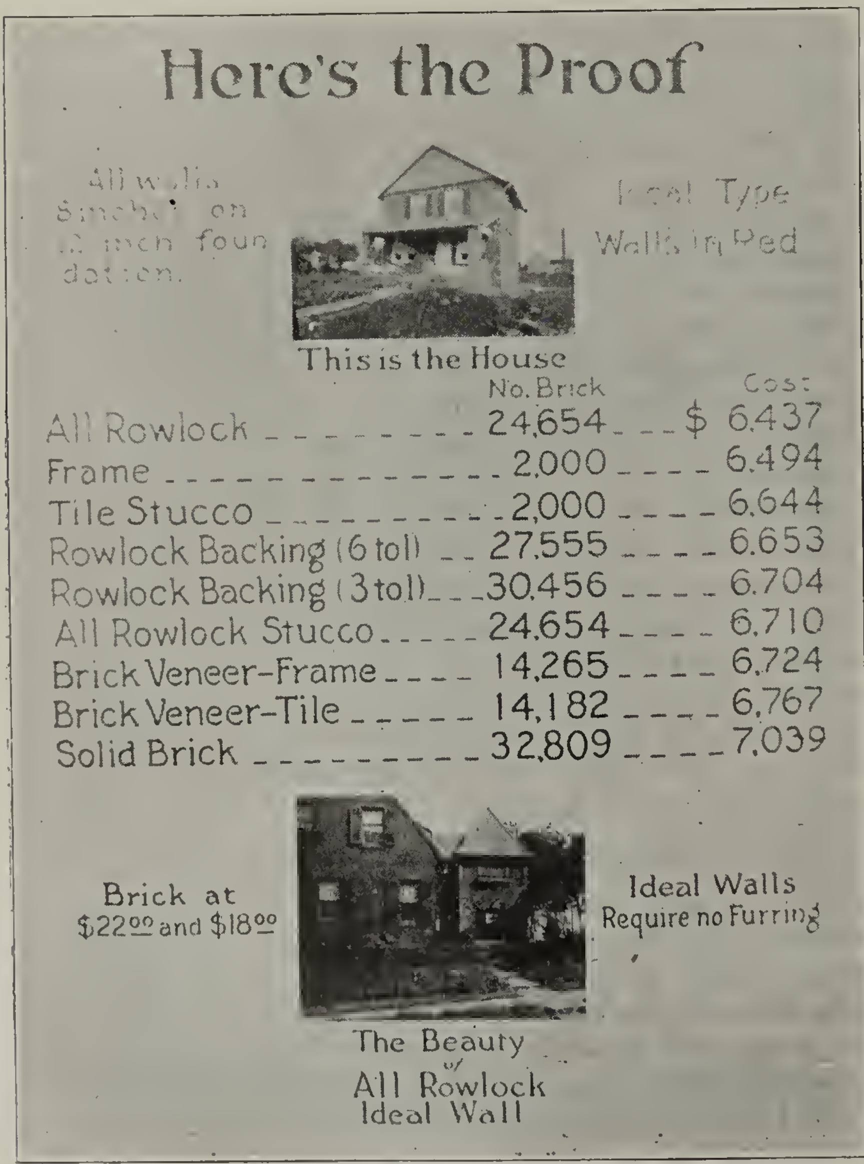
Mr. Boyd introduced J. McKenna, President Bricklayers' Union Local No. 1, Philadelphia, who told the bricklayer's side of the story. He condemned the attitude of newspapers which published stories of decreased bricklaying and recalled how the New York Herald had just that morning printed an item declaring that bricklaying now cost eight times as much as formerly, which he said was a lie. He stated that the criticism against the bricklayer being permitted to lay up only one course of brick at a time was unjust. The rule is in force because it makes for better bricklaying and is actually no restriction on bricklaying production.

In referring to the hours and wages desired by the bricklayer the union representative stated that the average working time for the bricklayer is only 183½ days a year and that he must live 365 days and thus must earn enough during his season of employment to tide him over during his period of enforced rest.

CHARLES H. BRYAN NEW C. B. M. A. PRESIDENT

L. S. Collins of the Los Angeles Brick Co. as chairman on the committee of nomination reported that it was found advisable to exercise the provisions of a resolution passed at the annual meeting last year and to extend the Board of Directors so as to more thoroly cover the country. Hence, three new directors were added. They are W. E. Dunwody, Macon, Ga.; Otto Z. Oehler, St. Louis, Mo., and F. C. Ervine, Denver, Colo. The following directors whose terms expired this year were re-elected to succeed themselves for another term: Max D. Almond, Texas; Tom Green, Iowa; Warren Griffiss, Maryland; W. K. Hammond, New York; H. C. Kleymeyer, Indiana; R. C. Shimer, Eastern Pennsylvania, and B. F. Webber, Illinois.

The new officers of the association are Charles H. Bryan, Detroit, president; W. N. Cary, Albany, N. Y., vice-president; John P. Cahoon, Salt Lake City, vice-president; William K. Hammond, New York, vice-president; Fritz Salmen, New Orleans, vice-president; E. S. Barkwill, Cleveland, treasurer; and Ralph P. Stoddard, secretary-manager.



Here's the Proof

All walls 8 inch on 12 inch foundation.

Ideal Type Walls in Red

This is the House

	No. Brick	Cost
All Rowlock	24,654	$ 6,437
Frame	2,000	6,494
Tile Stucco	2,000	6,644
Rowlock Backing (6 to 1)	27,555	6,653
Rowlock Backing (3 to 1)	30,456	6,704
All Rowlock Stucco	24,654	6,710
Brick Veneer-Frame	14,265	6,724
Brick Veneer-Tile	14,182	6,767
Solid Brick	32,809	7,039

Brick at $22.00 and $18.00

Ideal Walls Require no Furring

The Beauty of All Rowlock Ideal Wall

A Cleveland Contractor's Figures on What the Same Home Would Cost Using Nine Different Common Forms of House Construction.

SETTING BRICK BY MACHINE

On Friday morning the N. B. M. A. continued its sessions with the reading of various papers on plant operation. In a talk illustrated with splendid stereopticon views and motion pictures, R. C. Penfield, American Equipment Co., Chicago, explained the mechanical handling of brick. He showed how the cost of making brick had been reduced considerably in Chicago by means of the mechanical setter. Mr. Penfield stated that he believed that it was entirely possible and feasible for a plant with lower production than the Chicago plants to use the machine method of setting brick. If properly laid out, a plant making 50,000 or 100,000 brick per day could undoubtedly be equipped with a setting machine to its advantage.

The Chicago method of burning common brick was ably explained by Frank R. Lambert, Illinois Brick Co., Chicago, who showed each step in the process by colored slides. Oil atomized with steam is used for fuel purposes and the time for burning is forty-eight hours. The brick are set in scove or up-draft kilns which are 52 brick wide and 48 courses high. For the brick used on the outside courses 240 pounds to the thousand brick, of anthracite screenings are mixed with the brick. With this system of burning it only requires twelve to fourteen gallons of oil to burn a thousand brick, whereas it formerly took twenty to twenty-five gallons. Thus a forty per cent. saving in fuel requirement has been accomplished.

THE HOUSING PROBLEM

In this same session Herman L. Matz, Chicago and H. C. Kleymeyer, Evansville, discussed the housing problem. That shelter is one of the prime and basic necessities of civilization was emphasized in the talks given by these men who also stated that where shelter is not obtained unrest usually abounds. What money is spent for construction purposes adds to the wealth of the land. This is not true of all other industry as for example what money is spent for food and clothing does not remain as wealth since these commodities are consumed. Hence for the welfare of the nation and for thrift, construction should be encouraged.

In accord with the established custom of the N. B. M. A., the first vice-president was raised to the presidency, hence W. E. Dunwody of Macon, Ga., succeeds Wm. K. Hammond as president of the N. B. M. A. Jotham Post of East Williston, L. I. New York, has been elected third vice-president.

Before the close of the N. B. M. A. session, five resolutions were passed which were with regard to the following:

1. There now exists a tariff on clay products between the United States and Canada which is unequal. The resolution passed asked for either an equal duty on the commodities from both countries or the total abolition of any duty at all.

2. This resolution opposed the compulsory adoption of the metric system by Congress which it was stated was now being considered.

DEATHS OF CLAY MEN REGRETTED

3. Profound sympathy was expressed for the death of R. D. Eisenhart of Horseheads, N. Y. a former president of the N. B. M. A. who died during the course of the year.

4. Likewise a resolution was passed expressing sympathy to the National Terra Cotta Society because of the sudden death of their estimable secretary, Oswald Spier.

5. This resolution referred to the loss of many of the notable members of the organization thru death during the past year.

A resolution was introduced by D. Knickerbacker Boyd and passed jointly by the C. B. M. A. and N. B. M. A., asking for the coordination of the work of the construction industry; and advocating the continuity of employment; endorsing the cooperation between architect and bricklayer, and urging contractors to cooperate with the engineer and architect in the development of the art of brick work. It was also suggested in this resolution that the National Federation of Construction Industries call together local meetings in various parts of the country with a view of meeting with bricklayers and offering cooperation for the betterment of the entire construction industry.

SOCIAL SIDE NOT FORGOTTEN

There were also several social functions given in connection with the conventions. On Tuesday evening an informal recepton was tendered by the local entertainment committee in one of the dining rooms of the Hotel Pennsylvania. Besides a splendid show, dancing and other amusement was enjoyed.

The big social event of the week was the joint banquet held on Thursday evening at which over two hundred and fifty guests attended. The toastmaster on this occasion was Wm. K. Hammond of New York City who showed rare eloquence in his introduction of the various speakers. One of the chief speakers of the evening was none other than the well known Chas. H. Bryan of Detroit, new president of the C. B. M. A. Mr. Bryan's subject was "Evolution" and his speech dwelt chiefly on the evolution of the brick industry. Mr. Bryan said in part:

"History informs us that brick was first made in Egypt, and that straw was used. Very often you hear the remark that brick was first made from straw. This is not exactly so. Straw was put in the clay in order to hold en masse the clay—something after the method of hair in plaster. We find at this early period of our industry that the brickmaker was ever mindful of the quality of his brick.

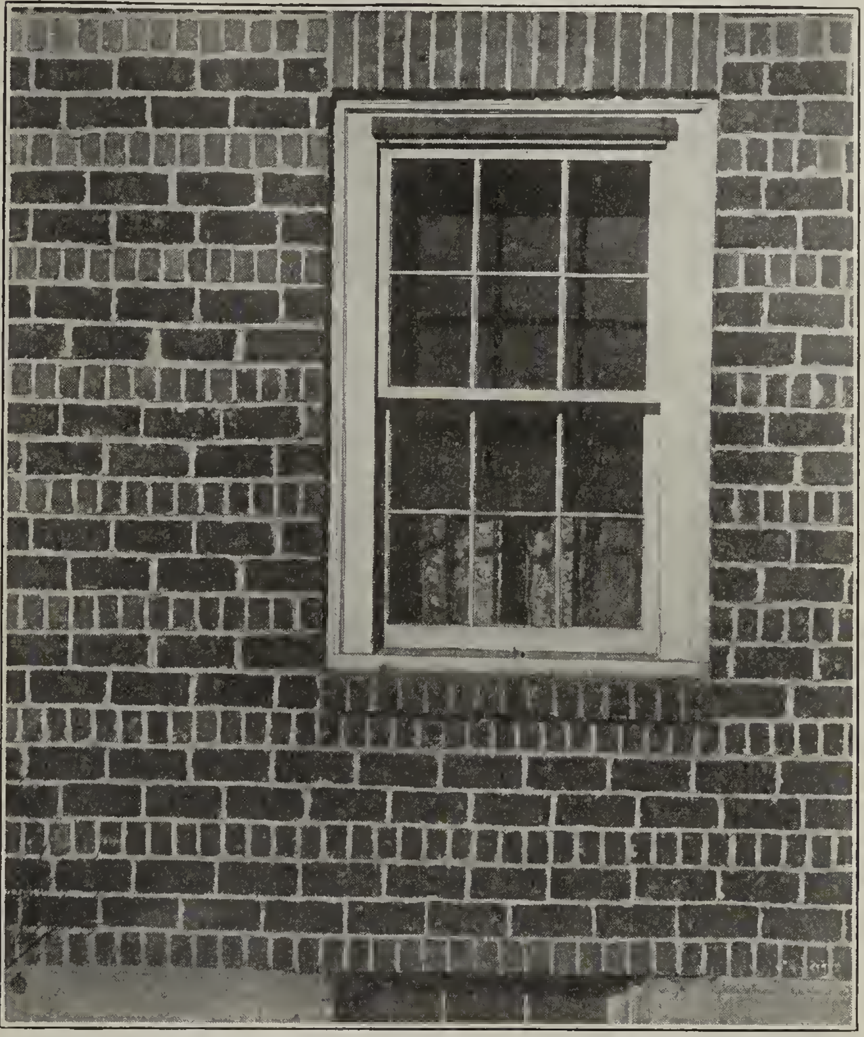
BRICK HAS ALWAYS STOOD FOR QUALITY

"Let us take a fleeting glance at our industry within the memory of man. No doubt some of you present have the recollection of hand-made brick, when the brickmaker imitated the housewife in mixing and placing in shape the clay as she did the bread—drying it in the sun, burning it, etc. Then this primitive brickmaker after the process was completed, hiked to the market and sold the product of his effort at a price which he thought the clay was worth, never figuring the cost. This process was quickly followed by the more up-to-date method, passing thru the horsepower stage up to the present process. It has always been a matter of pride to the brickmaker as we follow the different stages of his industry, from the straw brick to the present method, at all times to produce quality, and what is uppermost in our minds is the fact that we have given him quality, even to a larger degree then we have received it. Today we can look with pride upon the many monuments erected to us—the silent running underground construction, all withstanding the ravages of time and the assault of the elements, from the primitive brickmaker of straw and clay to the present more-up-to-date plan.

"In my mind's eye I can see the brickmaker who made the hand-made brick. What care he took in their making and with what pride he looked upon his efforts. And then we follow him as he starts to dispose of his ware, with a sort of 'please take my brick and pay me what you want to' air. And I can remember when we did business by the hand-to-mouth method in Detroit. Less than twenty years ago we had 20 or 25 brickmakers. Some have gone to their reward, some are working for Ford—but, with them, it was not Evolution, but Dissolution or going backwards. You notice that I say 'brickmakers', for that is what he was called—and is he today just a 'brickmaker'? Are we ever going to get into the manufacturing class? Is the evolution going to take place, or is it now in process? Let us see.

UP-TO-DATE METHODS MUST BE USED

"I have stood in a great auditorium and have heard the evangelist cry out, 'Now is the day of grace, Now is the accepted time.' Indeed, is this not so? Is it not about time that we began to employ up-to-date methods in our business? Is this the accepted time when we shall cease being 'brickmakers', and become brick manufacturers'? Let us get in step with the times and forge ahead of our competitors, who, by judicious use of publicity have made inroads into our business by having the building public use a material that we know does not compare. Then, let us tell the public something about our business and our material. Now let us all use up-to-date methods, keep in close touch with the cost, and let us support our associates that they may go out and tell the building public more about our commodity. Let us reverse the method and create a demand so that we will not have to beg someone to take our brick. Altogether now for a bigger business, with an eye to the future, with confidence in our associates and the ability to create this demand. Let our slogan be, 'Build with the best —build with brick.'



In the Above Illustrated Wall Every Third Course Goes Completely Thru the Wall, Giving Stability and Strength Above the Factor of Safety Required by Building Codes.

"It is impossible for me to pass this opportunity without asking, 'Has any change or evolution taken place with us as brick manufacturers?' At times in our lives we often stop for a moment and wonder why all this strife, this conflict, this burning up of our mental and physical energy, and from the late war we might have learned the lesson that altho we went into it with a determination to win, yet we longed for peace. After all, is it not true that you and I want peace, the peace of mind that brings us comfort? Every human heart that has ever beat has sought peace. Families estranged by the proverbial 'line fence' have perhaps been brought together in peace by a little child; when two stubborn old grandparents would return to the fork in the road in their lives and again restep this time in peaceful bliss—the journey that is all too short. Even is it not so in your life and mine when we long for a peaceful understanding, without violation of laws with our customers and competitors, that we may have peace of mind. It has been said that in ancient times war was a business, but in these later days business is war, modified just now by our own efforts in this association.

INDUSTRIAL SITUATION DISCUSSED

"You all remember when our competitor was regarded as well equipped with horn and hoofed heels, but when face to face in these conventions we realize that such is not the case.

that we are all, or should be, gentlemen with equal ambition, and that a peaceful adjustment of all differences is for the best after all. Let the evolution take place in ourselves, with higher ideals and nobler purposes."

Magnus W. Alexander of the National Industrial Conference Board, New York City, delivered a splendid address on the industrial situation. He especially referred to the four fundamental requisites of labor. They are: 1. The best wages that they can obtain. 2. Short hours of work. 3. Fair treatment from their employer. 4. Stability of employment.

Other notable speakers were Franklin H. Wentworth, secretary, National Association for Fire Prevention, Geo. A. Parry, Boston, Mass., Rev. Dr. James B. Wassen, New York City, and W. E. Dunwody, newly elected president of the N. B. M. A.

On this occasion Mr. Hammond was presented with a beautiful bouquet of roses as an expression of appreciation of the officers of the C. B. M. A. "Senator" Bryan displayed an unusual oratorical ability in presenting this fragrant bouquet to Mr. Hammond.

* * *

Brick Gives Good Account of Itself

Boosts for brick in road building do not always come from the brick manufacturer only. Most everywhere where it has been possible to make a fair comparison, brick has been able figuratively to "hold up its head" as high as any paving material. Some time ago a clipping from the Zanesville (Ohio) Signal was brought to our attention. Experience in Belmont County, Ohio, has very thoroly taught the people the value of brick pavements. An excerpt from the clipping reads: "Between Wheeling and Warwood there has recently been made a road improvement, part of which is brick and part of which is concrete, all built about the same time. The concrete is cracked and broken, the brick is as good as the day it was completed."

* * *

Prices Continue Downward Trend

The "Journal of Commerce" of January 29 states that, according to weekly trade reviews, commodity prices are still on the down grade. More lines of trade and markets reported a better feeling or increased buying at the close of the week ending January 29. A drop of 1.1 per cent was noted by Bradstreet's in food prices, while Dun noted 81 recesses and seventeen advances in commodity levels.

* * *

A City Built Upon Clay and of Clay

Built upon claybanks it would seem natural that Omaha, Neb., should be full of structures and edifices built of brick and other clay products. This is not, however a foregone conclusion, as the case of Kansas City tends to prove. Kansas City is also built upon claybanks but, altho used extensively, clay products are not so predominant in construction as in Omaha. This city has been blessed with a fastidious group of architects who have transformed it from a city built *upon* clay to a city built *of* clay. Brick in great office buildings, in beautiful residence construction, in fact in all classes of building testifies to the common sense of a city which appreciates this class of building material to its fullest value.

Consistent with its slogan "Omaha, where there's lasting prosperity", the city has recognized the ever-enduring qualities of clay products. A new business section in Omaha, on Douglas Street, three new office buildings and a new hotel are faced with brick of a dark hue.

Altho the beauty of white marble facings and cream colored stone can not be denied, the soot, grime and dirty smoke have little respect for any beautiful, light-colored surface. Once the face of a building built of such material has become dirty its biggest claim to beauty will have been permanently destroyed. On the other hand, the dirt and soot which prosperity always brings with it has little effect upon the appearance of a dark-colored, rough textured brick. Whole blocks of residences, house upon house, are built of this type of brick, in fact, everywhere Omaha's natural resources have been made use of.

* * *

Giving Brick a Better Chance

In the October, 1920, number of the "Permanent Builder" appears an article by R. G. Fuller on building ordinances, advocating the revision of all building codes which do not permit the eight inch brick wall for home construction. For residences of ordinary size the eight inch brick wall contains sufficient stability and strength to make a wider wall unnecessary.

The following is a provision which, the article says, should be incorporated in every building ordinance: "Eight inch brick walls may be used for the two upper stories of dwellings (the basement to count as one-story), provided, that the unbraced length shall not exceed sixty feet, that the percentage of openings shall not exceed one-third, and that the clear span of floors shall not exceed twenty feet for gables, measuring to the center of height of triangular gables and to the extreme height of gables of other forms."

* * *

Mines Producing Less Coal

A report from the Geological Survey on the production of bituminous coal, anthracite, and beehive coke, compiled January 29, says the total output of soft coal for the week of January 22, including lignite, coal coked at the mine, mine fuel, and local sales, is estimated at 3,139,000 net tons. This represents a decrease of 797,000 tons, when compared to the preceding week.

Using as a basis the reports from nine principal hard-coal carriers, which showed 34,789 cars loaded, the total output of anthracite for the week ended January 22, after making allowance for mine fuel and local sales, is estimated at 1,819,000 net tons, or a monthly rate of 7,500,000 tons. Comparison with the preceding week shows a decrease of 76,000 tons, or four per cent.

* * *

Ohio Greatest Producer of Ceramics

Leadership in the ceramic industry is claimed by Ohio. All manner of clay products plants abound in Ohio, from plants manufacturing paving brick and drain tile to potteries making the finest grades of ceramic ware. According to a report of the United States Bureau of Mines the total value of Ohio's annual output of ceramic wares amounts to $78,000,000, or 74.4 per cent. of the total national value. Sixty-eight per cent. of this sum, or $53,000,000, represents the value of the state's clay products alone. It is evident therefore that clay products predominate in the ceramic industry.

The annual value of the white pottery classed as "tableware," in the United States is $31,000,000 of which Ohio produces $16,500,000, or 52.2 per cent. of the nation's output.

* * *

Business Revival Becomes Apparent

R. G. Dun & Co. states that business conditions are somewhat more encouraging, despite unsatisfactory features which still prevail. The company says that sharp contrasts continue in different trades and industries, but there are more points of gain than formerly and clearer evidence that price readjustments are working toward a revival of demand.

Abundance of Clay in Idaho

Thru the University of Idaho at Moscow, the state bureau of mines and geology has published, in cooperation with the United States Bureau of Mines, a valuable and interesting preliminary report on the clays of Idaho.

The clays examined came from thirty-two deposits, twenty-eight of which gave indications of being useful clay materials. In quality they grade from white ware and high refractory clays, thru the buff burning stoneware and terra cotta clays to the common red brick varieties.

In most regions red burning shales suitable for the bulk of the structural wares, constitute the majority of the clays. These shales have not been reported for the State of Idaho, and if absent must be replaced in the manufacturing industries, by red burning clays of different origin, such as basaltic clays.

* * *

Get in Direct Touch with Coal Producers

In a speech before the New England coal conference which was conducted by the Associated Industries of Massachusetts in Boston recently, Dr. Harry A. Garfield, former Fuel Administrator, said that manufacturers must cease to depend wholly upon the middleman and must learn to understand the problems of coal production and should endeavor to make as direct connections as possible with the producers.

Dr. Garfield severely criticized the middlemen who play the game for all there is in it and impressed his audience with the importance of dealing only with middlemen of the most reputable standing. Altho part of the difficulties of the past few years were caused by middlemen, consumers in New England and the northwest find them highly necessary and many producers need the services of the middleman in marketing their product.

* * *

115 Per Cent. Gain in Banking Capital

A statement was issued recently by the Comptroller of the Currency which says in part: "During the past fiscal year 361 charters were granted for new national banks, with a capital of $31,077,500, and 608 national banks have increased their capital a total $104,618,100. The net increase of authorized national banking capital for the year, after subtracting all reductions, by consolidations, voluntary liquidations, receiverships and reductions of capital, is $118,810,000. This is 50 per cent. more than the greatest increase for any preceding year since 1865.

"The latest reports of earnings of national banks, both gross and net, covering the twelve months ending June 30, 1920, which have just been compiled, exceed all previous records. The gross earnings for these twelve months are reported at $1,109,116,000 as compared with $515,624,000 in 1914, an increase in seven years of $593,492,000, or 115 per cent. For twelve months ending June 30, 1920, net earnings amounted to $282,083,000, which compares with $149,270,000 in 1914, an increase of $132,813,000, or nearly 90 per cent."

* * *

INFLUENCE *of the* ARTIST *in* CERAMICS

I HAVE BEEN ASKED to speak upon the relation of the artist to the production of all the materials and objects included in the comprehensive term, "Ceramics." If by "Artist" we mean one whose training and experience has been devoted to the practice of the so-called Fine Arts as distinguished from the Industrial Arts, I should say that for the past century or so this relation has been vague and almost negligible in its results.

In artistic craftsmanship the artist who has had no special training may be useful as a critic, but the craftsman, who, to his training in craftsmanship, has added a broad study of the historic and aesthetic side of his work, is always the person to whom we must look for real artistic progress.

To your industry, and to every artistic industry today, the vital need is education; education of designers, of craftsmen and of the public. This is not a matter to be left to the gradual development of some general scheme of industrial art education. It is something that should be started now under the auspices and control of your own craft. The instruction of your designers and your craftsmen should be highly specialized instruction, and your publicity should be highly specialized publicity.

ARCHITECTURAL TERRA COTTA

Let us look for a moment at the history of architectural terra cotta during the past 30 years. Great technical progress has marked this period. A marvelous variety of colors and textures both in enamels and glazes, and in the body of the material itself has become commercially practical during these years.

But—in spite of that great mass of architectural terra cotta that is now being used in buildings, between eighty and ninety per cent. of it, I have been told, has been jointed and textured in distinct imitation of granite or of some other stone, and if I were asked today to select the most logical, beautiful and distinguished examples that we have of the use of this material, I should have to go back to the Madison Square Garden or the Century Club—works completed 25 years ago.

A development of this kind will, if you give it time, so debase one of the most classic and beautiful building materials as to eliminate it from consideration except when cheapness is the primary requisite.

SCIENTIFIC PUBLICITY NEEDED

In this matter the architects, the manufacturers and the public must share the blame, but the cure for it rests, I think, with such associations as yours. It is a question of educational propaganda.

A publicity campaign along lines similar to those followed by the White Pine interests in their most interesting and valuable publication, might well be inaugurated, and in my judgment could be made of inestimable value in the creation of a widespread understanding of the traditions of the ceramic arts; these traditions as illustrated by selected examples of a material that during the past 5000 years has successfully held its own against all others.

Let me add one word more. Brick, faience and architectural terra cotta should in your educational propaganda be treated as a single subject. The possibility of combination of these with each other, as well as with other materials, constitutes one of their strongest claims for favorable consideration.

The effort to push any one of them at the expense of the other two will, I believe, work injury to all.

Address at the meeting of the American Ceramic Society, Sixth National Exposition of Chemical Industries, New York, September 24, by J. Monroe Hewlett, Architect, New York City.

A NEW BRICK

Ralph P. Stoddard, Secretary, Common Brick Manufacturers' Association, says, "I Actually Believe That We Will Revolutionize the Brick Business with This New Idea."

Radical Departure from Old Method of Laying Brick—Cheaper Than Frame in First Cost—Has All Advantages of Solid Brick Wall

By Milton H. Andrew, Advertisir

ONE OF THE MOST IMPORTANT as well as interesting announcements made in recent years is that of the discovery of a brick hollow wall. Hollow walls built of brick are nothing new in the construction field, but difficulty of construction, no appreciable decrease in cost and lack of stability have been the great drawbacks in walls of this type. The new wall described in this article has surmounted all these obstacles and thru its rapidly gaining popularity is threatening to revolutionize home construction and architecture.

Mark Twain said, "A lie would travel all around the world while the truth was putting on it's shoes." A rather humble recommendation for veracity but it makes more significant the wonderful and widespread popularity of this "Better Way to Build."

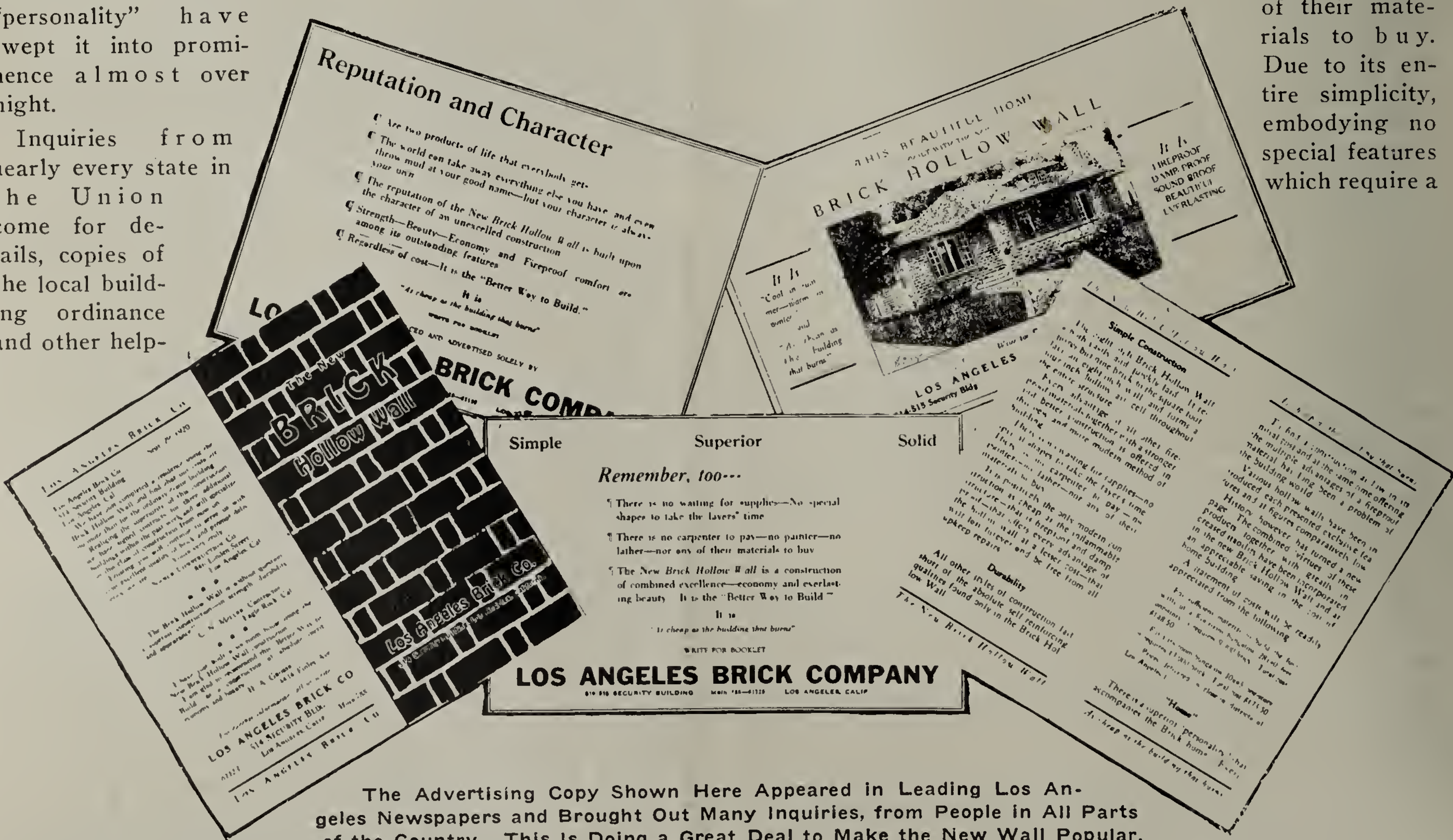
In Los Angeles, which for months past has been the second city in America for building permits, the brick hollow wall has taken a revolutionary hold on residence construction. Its absolute simplicity and unrivaled economy together with a distinctive charm and "personality" have swept it into prominence almost over night.

Inquiries from nearly every state in the Union come for details, copies of the local building ordinance and other helpful data. The fast growing familiarity of the building public with this new method of laying up the proven product is in itself an assurance of success.

The new brick hollow wall requires but nine brick to the square foot, as against thirteen for a solid wall. In other words the hollow wall takes less than three-fourths the number of brick that are necessary to build a solid brick wall. A four-inch hollow air space thruout the entire structure is formed. It offers every advantage of all other fireproof materials, with a stronger and better construction. No other style of building carries with it the positive self-reinforcing qualities found in the brick hollow wall.

The brick are laid on edge, the manner of construction is shown in the illustration. Every four inches a full length brick is laid that ties the outer wall with the inner and makes impossible the development of any weakness.

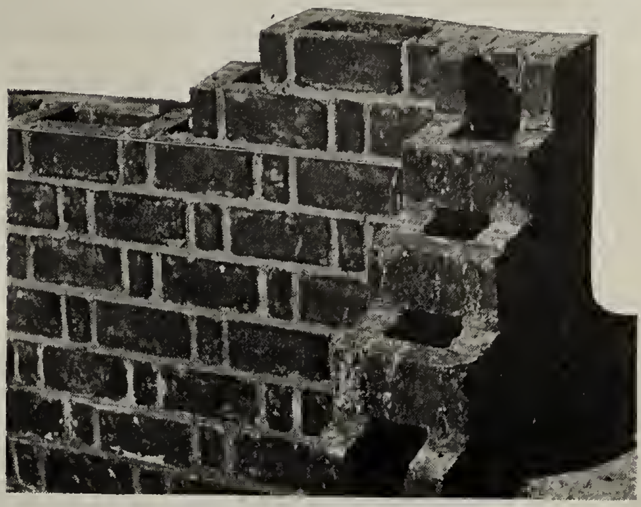
There is no waiting for supplies, no special shapes to take the layer's time. There is no carpenter to pay, no painter, no lather, nor any of their materials to buy. Due to its entire simplicity, embodying no special features which require a


Reputation and Character
¶ Are two products of life that everybody gets.
¶ The world can take away everything else you have and even throw mud at your good name—but your character is always your own
¶ The reputation of the New Brick Hollow Wall is built upon the character of an unexcelled construction
¶ Strength—Beauty—Economy and Fireproof comfort are among its outstanding features
¶ Regardless of cost—It is the "Better Way to Build."
It is
"As cheap as the building that burns"
ADVERTISED SOLELY BY
BRICK COMPA
The New BRICK Hollow Wall
Los Angeles Brick Co.
THIS BEAUTIFUL HOME
BRICK HOLLOW WALL
LOS ANGELES BRICK CO
Simple
Superior
Solid
Remember, too---
¶ There is no waiting for supplies—No special shapes to take the layers' time
¶ There is no carpenter to pay—no painter—no lather—nor any of their materials to buy
¶ The New Brick Hollow Wall is a construction of combined excellence—economy and everlasting beauty. It is the "Better Way to Build."
It is
"As cheap as the building that burns"
WRITE FOR BOOKLET
LOS ANGELES BRICK COMPANY
SECURITY BUILDING
LOS ANGELES, CALIF.
Simple Construction
Durability
All other styles of construction fall short of the absolute self reinforcing qualities found only in the Brick Hollow Wall
The New Brick Hollow Wall

The Advertising Copy Shown Here Appeared in Leading Los Angeles Newspapers and Brought Out Many Inquiries, from People in All Parts of the Country. This Is Doing a Great Deal to Make the New Wall Popular.

HOLLOW WALL

Stability, Comfort, Economy and Simplicity Are the Vital Features in Its Construction — Less Time is Required in Building



Manager, Los Angeles Brick Co.

skilled mechanic, the time required to build a wall of this nature is practically the same, in proportion to the number of brick contained in it, as in the solid wall.

The four-inch air space between the outer and inner walls prevents the passage of moisture, which makes possible another saving in cost. Plaster can be applied directly to the brick wall and therefore the furring and lathing costs are eliminated. It is also a very simple matter to stucco the exterior and here again the furring operation is obviated.

It is the only construction in western America that competes with the inflammable structure and enables us to truly advertise it as "As cheap as the building that burns"—*in its first cost!* The elimination of upkeep expense, painting, depreciation, etc., make the final cost *less!*

This feature of low cost is really the most important and remarkable thing about the new brick hollow wall. For sufficient material to build the four walls of a six-room bungalow, 28x40 feet, one story, the cost for hollow tile would be $246.40; for lumber, $201; and for the hollow wall only $143.55. These figures are for material only, taking in consideration the lesser cost in labor due to the small number of brick used, the difference in cost will represent an appreciable saving to the home builder. Economy, after all, represents the advertising key to public interest and approval.

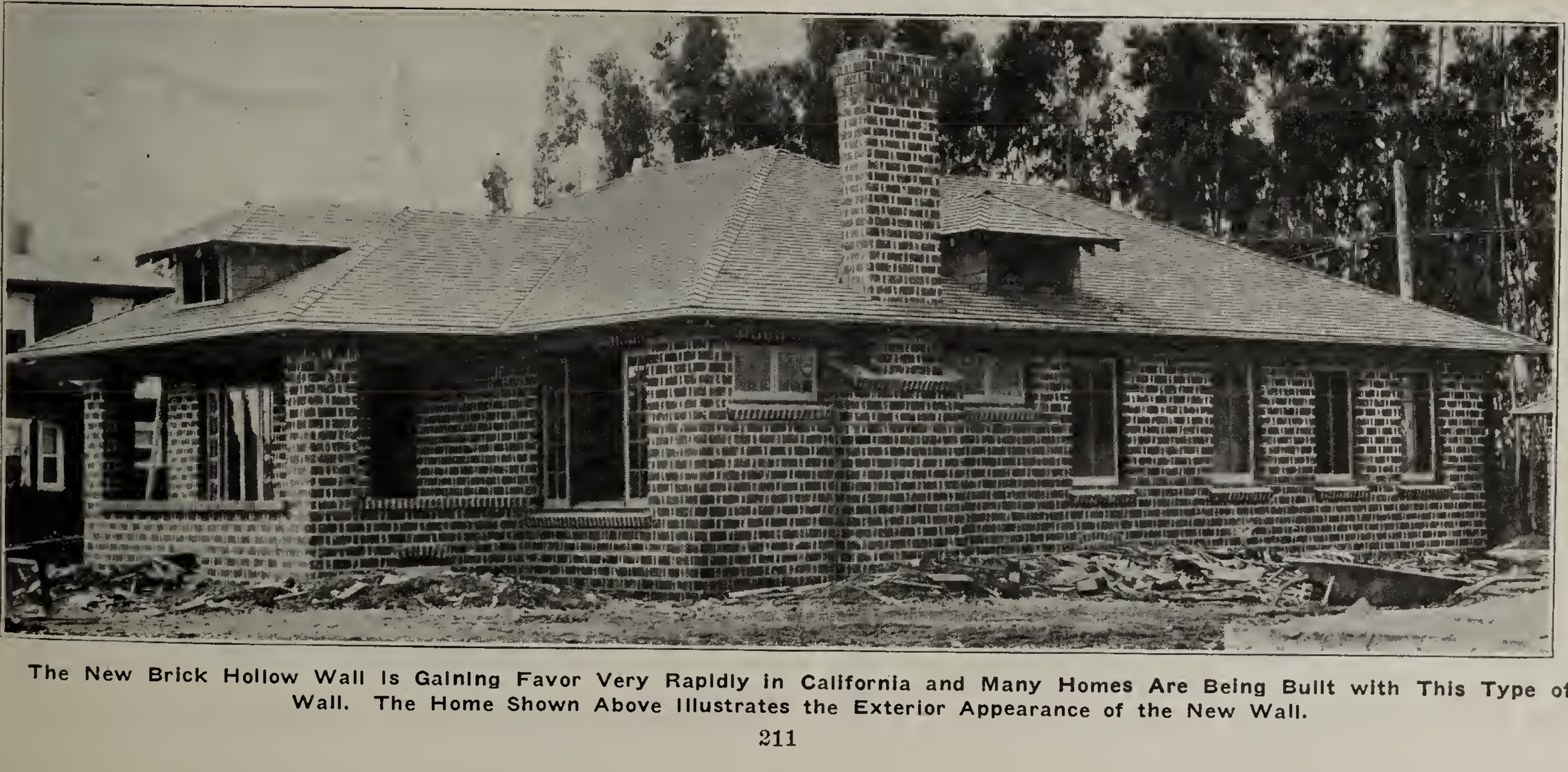
The table here given will show comparative cost figures of labor and material. From these figures it may be seen that the saving of the brick hollow wall method over the brick solid wall represents a considerable amount. The labor costs are based on the rather nominal figure of a thousand brick per day as the bricklayers' capacity.

Cost of Building Brick Walls of One-Story Bungalow, 28x40 Feet

Labor and Material	Hollow Wall	Solid Wall
Brick—$15 per M	$143.55	$210.60
Lime—$1.75 per barrel	24.50	35.00
Sand—$3.25 per yard	21.50	30.30
Labor—Masons $10 per day. Laborers $8 per day	171.00	252.00
	$360.55	$527.90

Note—These figures were estimated by *Brick and Clay Record.*

In California where brick sell for fifteen dollars per thousand the material cost per square foot is thirteen and one-half cents (not including mortar). Hollow tile is twenty-two and one-half cents, and concrete blocks twenty-five cents. Such a comparison is sufficient to prove the economic merit of this building development.



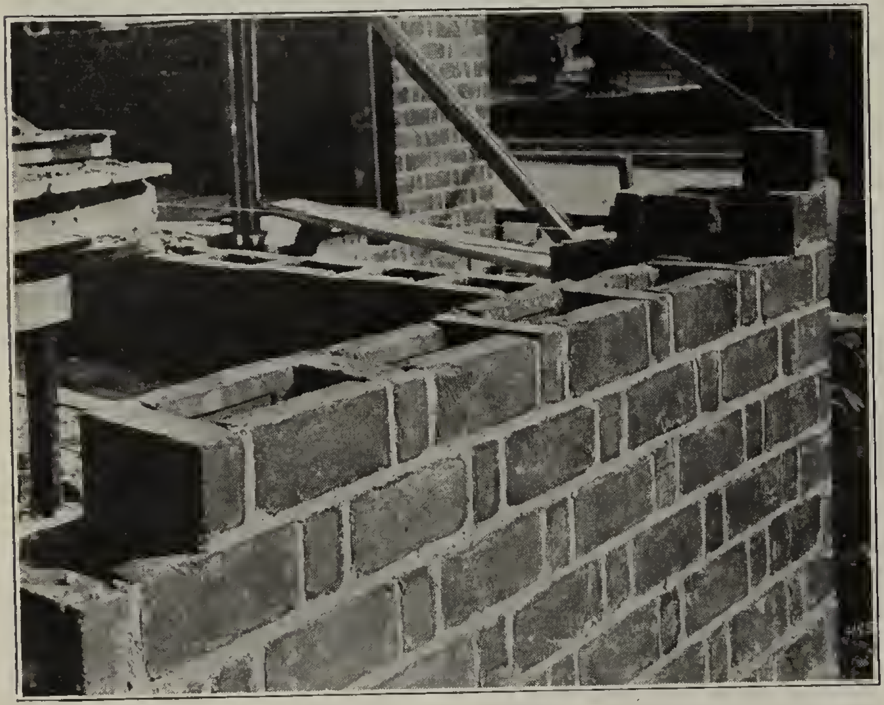
The New Brick Hollow Wall Is Gaining Favor Very Rapidly in California and Many Homes Are Being Built with This Type of Wall. The Home Shown Above Illustrates the Exterior Appearance of the New Wall.

Simplicity is another keynote feature and one of fitting importance. The brick are both quickly and easily laid, less than half the usual amount of mortar being required per superficial foot.

It is indeed a construction that not only runs over with talking points but that is completely full of facts and most perfectly combines the virtues of every competitive product.

The story of the Brick Hollow Wall is not a long one. The laying of brick on edge with various reinforcing combinations has been known for many years. Clay products manufacturers, however, have given but little thought to brick saving methods and pushed the solid wall for all fireproof construction.

Today competition is more keen. The field has broadened immeasurably. Especially at this time are people looking for a product whose *first cost is the only cost* and whose *first cost is low*. More than any other building material does the new brick hollow wall meet these rigid requirements. Strength, economy, lasting beauty and a fireproof home of year 'round comfort, with the complete elimination of all upkeep repairs, tells the story in so many words.



The Brick Hollow Wall Obtains Stability by Running a Brick Thru the Wall Every Four Inches. Its Construction Is Very Simple.

BRICK NOT ALONE IN FIREPROOF FIELD

Now there is an appreciable lack of initiative that has characterized the individual brick manufacturers almost from the time of their very existence. It is true that fifty years ago brick stood almost alone as the fireproof building material. But the development of a great construction industry has introduced countless other products and made imperative the need of a *live* publicity department.

The Common Brick Manufacturers' Association is doing much to keep attention and interest in "The Better Way to Build" thru the large monthly periodicals. That sort of foundation forms a splendid basis for the local campaign, *but it is only a basis*. The direct result of all advertising is brought by a persistent publicity program—and that by the manufacturer himself.

At present the new brick hollow wall is not widely known and it is up to the brick manufacturer or manufacturers in their respective districts to get busy and tell the public of this new and cheaper way of absolute fireproof construction. In Los Angeles, Cal., the new wall has become popular and its advantages over other types of construction, viz., simplicity and remarkable economy, bid fair to make it supplant to a large extent other building materials.

Much of this popularity is undoubtedly due to the advertising the Los Angeles Brick Co. has done and is still doing in an endeavor to sell the idea to the local market. Daily papers, theater programs and pamphlets are used as mediums in promoting this new type of construction. Much of this advertising carries pictures of houses built with brick hollow walls and also shows the method of laying the brick.

GOOD ADVERTISING MEANS GOOD SALES

There's just one big secret to sales success—just one long lap that lies between the order signed and the man who builds—the answer is found in *good advertising*. Every street car in America carries daily the advertisement of a certain well known chewing gum. Hardly a newspaper in this country or abroad but that regularly contracts space for this great confectionary corporation. The result is that the company sells ninety per cent. of the chewing gum used in the United States and eighty per cent. of the world's consumption.

This is an instance of what one organization has done thru constant, attractive advertising. There is another interesting phase of this important field.

Most of the national houses manufacturing one product or one class of commodities carry a tradegram as part of their educational program. Short stories like—"57"—"Time to Retire"—"The Flavor Lasts"—"They Satisfy" and "From Contented Cows" are all valued characters that have played important roles in the advertising campaigns of their makers.

The brick industry, and especially the new brick hollow wall as a part thereof, offers many opportunities for just such educational work. "As Cheap as the Building That Burns"—"Fireproof — Dampproof — Soundproof — Beautiful — Everlasting"—"The Better Way to Build," are samples of ideas along the tradegram line.

There is no salesgetter like personal touch. Few books can be written—few advertisements or pictures drawn that will bring many checks by return mail. But well written advertising and attractive illustrations do one big thing. They bring the builder to your office in a buying frame of mind; your salesman can do the rest.

The new brick hollow wall is a superior construction. Its simplicity and economy are unequaled. The quality features of comfort, safety and distinctive charm place it far above every other fireproof style of building. These crowning characteristics make a home everybody can afford and that no one can afford to be without.

No other material used in the building business is needed as much or advertised so little as brick. And we all know and only too well, that it pays.

CONVENTIONS IN PROSPECT

February 21, 22 and 23—American Ceramic Society, Deshler Hotel, Columbus, Ohio.

February 24 and 25—Iowa Clay Products Manufacturers' Association, Chamberlain Hotel, Des Moines, Ia.

February—Kentucky Clay Products Association, Old Inn Hotel, Louisville, Ky.

March 1, 2 and 3—Western Ontario Clay Workers' Association, Chatham, Ontario.

March 8—Illinois Clay Manufacturers' Association, La Salle Hotel, Chicago, Ill.

A Housing Plan of Proven Worth

A housing plan, designed to meet the shortage of homes in Dallas, Texas, has resulted in the organization of the Dallas Housing Co., by the Chamber of Commerce. More than 120 houses have been built, and the plan has attracted nation-wide attention. The company was organized in the spring of 1919 and $500,000 was the figure wanted by the Chamber of Commerce. However, when $150,000 had been paid in, the work of building homes was begun. Inquiries for houses have been received by the hundreds and are being satisfied as fast as possible. None of the houses are rented.

The company finances itself from the sale of first-lien mortgages against the property and from the cash and monthly payments. The mortgages are usually from forty-five to fifty per cent. of the sale price. Houses are built in four different sections of the city and sell for from $3,900 to $5,250 each, including the lot, the price depending upon which section of the city they are in and also the size and character of the house.

All materials were bought in advance and contracted for in large quantities, the saving effected by this method being so great as to enable the company to reduce the cost $1,000 to $1,500 below that of a similar home built singly.

No definite plan was followed by the Dallas Housing Co., in regard to the sale of these houses, as the principal idea was to interest those who were anxious to build their own homes but had not enough capital to do it themselves. The size of the cash and monthly payments was based entirely upon the ability of the purchaser to pay. In many cases the payments were determined wholly by the moral risk attendant with the sale. The average cash payments have been about $500 and monthly payments including interest on notes from $45 to $75.

Large labor employers have become interested in the scheme and have aided many of their employes to purchase a home. Unrest among employes is markedly decreased under conditions such as afforded by the Dallas Housing Co.'s plan.

* * *

Kentucky Brick Makers Will Meet in February

Kentucky Clay Products Association will probably not hold a meeting until the middle of February, according to Secretary J. Crow Taylor, who stated that it was planned to hold up the annual meeting until after the meeting of the national association, in order to benefit by taking up matters discussed at the annual meeting of that body.

* * *

RAILROADS SHOW MARKED INCREASE *in* EFFICIENCY UNDER PRIVATE OWNERSHIP

CONTRARY TO THE BELIEFS of many, the year just closed has been the record year of achievement in American railroad operation. In addition to moving a larger gross tonnage than ever before, a record has been established in the amount of transportation gotten out of each car.

In the nine months since March 1, when the government turned them back to private ownership the railroads have:

1. Increased the average movement per freight car per day 6.3 miles—from 22.3 to 28.6 miles.
2. Increased the average load per car 1.7 tons—from 28.3 to 30 tons.
3. Made substantial reduction in the number of unserviceable locomotives.
4. Reduced the accumulation of loaded but unmoved freight cars from 103,237 on March 1, to 21,991 on December 3, of which only 6,386 were detained because of the inability of the railroads to move them.
5. Relocated approximately 180,000 box cars from the East to the West for the movement of farm produce.
6. Relocated approximately 180,000 open top cars from the West to the East to keep up the production of coal.
7. Moved the third highest coal production in the history of the country.
8. Spent over $500,000,000 extra on improving the maintenance of tracks, bridges, cars and locomotives.

TO SPEND HUGE SUMS FOR BETTERMENT

9. Contracted to spend about $250,000,000, largely out of earnings for additions and betterments to promote the movement of cars.
10. Made arrangements to purchase approximately 50,000 new freight cars, 1,500 new locomotives, and 1,000 new passenger cars.
11. Begun the reconstruction of thousands of old cars.
12. Moved—with a deteriorated plant, under disturbed labor and business conditions—the largest volume of traffic ever known in a single year, with the highest efficiency yet achieved, and with a minimum addition to the value of the property on which the public has to pay a return thru rates.

When railroad companies resumed operation of their properties it was found that, due to intensive use during the existence of war conditions, a considerable number of cars and locomotives were in bad order. Out of 265,000 cars out of service, approximately 90,000 have been repaired or rebuilt. Cars were unevenly distributed with small regard for the need of traffic, a large volume of grain from 1919 remained on hand, an amount of business was offered to the roads which it seemed was beyond their ability to move, and coal stocks were entirely depleted.

The railroads were additionally handicapped by labor troubles. Wage demands amounting to almost $1,180,000 had to be adjusted and in April outlaw strikes developed which produced effects out of proportion to the number of men ceasing work.

GREATLY INCREASE TRANSPORTATION CAPACITY

Thru efficient administration railroad companies have increased transportation capacity to an extent which, if produced thru the addition of new cars and locomotives, would have meant an expenditure of approximately $2,000,000,000. This would have been added to the property value of the railroads and ultimately devolved upon the public thru rates.

For the results obtained in the last year the roads do not deserve sole credit. The help of the shipper in promptly loading and unloading cars and the steady, rain-or-shine work of thousands of employes in keeping cars moving when once loaded played a very important part in the year's achievements.

A survey of the year's activities should plainly show the value of cooperation between shipper, operator and employe in obtaining best results. In 1921 the railroads hope to make a better showing than in the year just past.

Thomas De Witt Cuyler, chairman, Association of Railway Executives, states that to his knowledge there is no movement on the part of railroad companies for a general increase in rates and that none is expected. He further states that American railroad companies will make every effort to continue to justify the support and confidence which public opinion in a gratifying measure has already accorded them.

CANADIANS ENJOY RARE HOSPITALITY

Nineteenth Annual Meeting of C. N. C. P. A. Brings Record Number of Delegates to Toronto—Convention is Another Milestone in the Steady March Forward of the Clay Industry in Canada

TORONTO BRICK AND TILE makers covered themselves with glory in the cordial and enthusiastic manner with which they welcomed and entertained the visiting clay products men attending the nineteenth annual meeting of the Canadian National Clay Products Association. This gathering, which met at the Carls-Rite Hotel on January 25, 26 and 27, was one of the largest if not the greatest of Canadian meetings. Fully one hundred men interested in the clay business enjoyed the wondrous hospitality of the Maple Leaf's most progressive city (with all due respects to its neighboring city, Hamilton and to Ottawa bounded on the north by Hull, and so forth).

WESTERN CANADIANS REPRESENTED

Even distance failed to keep away some of the loyal members of the association. Travelling a space of twenty-six hundred miles, three of the clay products manufacturers present came all the way from the province of Alberta. They were J. H. Millar, Acme Brick Co., Ldt., Edmonton; Herbert J. Sissons, Redcliff Pressed Brick Co., Ldt.; and R. P. Stewart, Alberta Clay Products Co., Medicine Hat.

It is doubtful whether the association ever listened to a better program. Tremendous credit is due the indefatigable secretary, Gordon C. Keith, for the splendid management of the convention activities, the high class of talent displayed at the banquet and the interesting and educational papers and talks given at the various business sessions.

The convention opened at eleven o'clock on Tuesday morning, the amiable president, William Burgess of the Don Valley Brick Co., presiding. C. A. Millar, chairman of the entertainment committee, which received many highly commendatory remarks because of its success as host, made the address of welcome and placed everything at the disposal and convenience of the guests. Following replies made to this welcome, by W. H. Freeborn of Brantford and William McCredie of Belmont, the president read his annual address.

OUTLOOK VERY FAVORABLE

Among the things mentioned by President Burgess in his address was the need for housing the Canadian population properly. He believed that the situation was very favorable for the brick business and that there should be a demand for every brick that can be manufactured during the year 1921 and at a fair price.

Mr. Burgess also described the need of a protest to the Ontario government against the sale of brick made by free labor at the government's prison on the open market in competition with brick made by manufacturers who have to pay high labor costs.

If the bill which has been introduced to fix an eight hour day limit is carried by the Ontario Legislature, it will drive manufacturers to other provinces where such legislation is not in force, says Mr. Burgess. Other provinces will prosper at the expense of Ontario and the passing of such a law is neither desirable for the welfare of the nation nor for the good of the clay products business.

AS TO WORKMAN'S COMPENSATION

Mr. Burgess furthermore condemned the movement on the part of some interests in the government which were advocating that the workman's compensation be increased to 100 per cent. of wages in case of accident instead of the present rate of 66⅔ per cent. He believes that, while there

View of the Delegates Attending the Nineteenth Annual Convention of the Canadian National Clay Products Associatio is no doubt about the compensation being a proper demand on business and that most laborers are honest, there are many who would take advantage of their injuries if they received 100 per cent. of their wages as compensation.

The reading of the minutes of the last meeting were dispensed with but the minutes of the executive committee were read and approved. These minutes revealed much activity on the part of the committee during the past year. The treasurer's report, which was read by Mr. Keith, showed a healthy balance on hand in the association's funds.

In the absence of H. H. Hallatt, who was prevented from attending owing to conflicting duties, his report of the work done by the tile committee, was read by Secretary Keith. Mr. Hallatt deplored the high cost of tile ditching machinery which, owing to the fact that it is not manufactured in Canada, is still subjected to high import duty, as it falls above the price of exempted implements.

Mr. Hallatt also advocated a school for training young men for technical work in clay working. This proposition has already been under consideration for some time and it is quite likely that there soon will be established, perhaps in Toronto, a course for technical training in clay working.

OFFICERS FOR ENSUING YEAR

In accordance with the established practice of promotion in office, the following men were recommended by the nominating committee and accepted by the assemblage, as officers of the Canadian National Clay Products Association for the ensuing year: President, Ryland H. New, Hamilton & Toronto Sewer Pipe Co., Hamilton; first vice-president, Millard F. Gibson, Interlocking Tile Co., Toronto; second vice-president, T. H. Graham, Inglewood; third vice-president, Andrew Dods, Ontario Sewer Pipe & Clay Products, Ltd., Mimico; secretary-treasurer, Gordon C. Keith.

Besides all past presidents in good standing, the councillors consist of H. H. Hallatt, Tilbury; N. T. Gagnon, Montreal; F. B. McFarran, Toronto; George Price, Toronto; Chas. A. Millar, Toronto; C. B. Lewis, Toronto, and W. J. Nicholson, Toronto.

Secretary Keith introduced the Rotarian method of self-introduction previous to the reading of the papers on the program and as a result each man present got up in turn and announced his name and business connection.

ADVOCATES SANE OPTIMISM

The first talk on the program was given by J. Clark Reilly, secretary of the Canadian Building and Construction Industries, Ottawa. Mr. Reilly gave a delightfully interesting message to the brickmakers and told of the great need for construction. He stated that the construction requirements for Canada were greater at present than for any other time during the past eight or nine years. He also mentioned that the general public and labor were silent partners of the construction industry who must be given a square deal in prices and wages before much activity will be noted. He made an appeal for sane optimism and held the outlook in building to be exceedingly bright. However, he warned those present to be cautious in their moves.

These Men Traveled 2,600 Miles to Attend the Convention. They Are, Left to Right: J. H. Millar, H. J. Sissons and R. P. Stewart.

J. Edgar O'Brien of M. A. Kennedy, Ltd., representing the Godfrey conveyors spoke on the "Scientific Handling of Loose Materials." He made particular reference in his talk to the coal handling system installed at the plant of the Dominion Sewer Pipe & Clay Industries, Ltd., at Swansea. The members present were especially interested in the huge savings made in the cost of handling coal at this factory. Mr. Kennedy, president of the above mentioned concern, augmented Mr. O'Brien's statement by describing the benefits obtained by the use of this installation.

GIVES PYROMETER DEMONSTRATION

"New Ideas in Pyrometry" was the topic assigned to J. J. Mungen, Detroit, of the Brown Instrument Co, who very ably explained the workings of a pyrometer instrument. Thru a demonstration with parts of the equipment which he had at hand, he was able to convey more clearly to his audience the general principles of the heat measurement equipment.

Holding up a tile which to all appearances looked as tho it were fresh from the kiln, A. G. Datzell, of the Clay Products Agency, Toronto, demonstrated the superior-

oronto, Can. All Association Members Were Enthusiastic in Declaring It One of the Most Successful Meetings Ever Held.

ity of clay drainage tile. The tile he held in his hand had been in the ground for fifty-eight years and was among the first ever made in Canada. Mr. Datzell held his listeners' interest by telling of the varied uses of sewer pipe and how it excelled substitutes for similar usage.

A system for putting "Waste Heat to Work" was described by George Cutbush, the expert burner for the Don Valley Brick Works, Toronto. He described a very interesting method for utilizing the heat from one kiln by transference to another thru a system of underground flues. This scheme was worked out by him on rectangular kilns in which face brick and common brick are burned. An enormous reduction in the fuel requirements in firing the kilns accompanied the use of this method of burning. A. M. Wickens, Toronto, then read a paper on "Burning Fuel at Maximum Efficiency."

John Booth, Who Has Recently Gained Much Publicity as the Designer of the Booth Tunnel Kiln.

GUESTS ENJOY EVENING OF RELAXATION

A motion picture illustrating modern office and factory systems, presented by the Office Specialty Co., Toronto, portrayed the practices followed by progressive and large concerns in regard to office equipment.

On Tuesday evening those registered at the convention were guests to a theatre party at Shea's Theatre. The clay worker's formed a conspicuous part of the audience at a show which was of great amusement to all.

Wednesday morning, the program of papers was continued. Conrad Dressler and George Booth held the center of the stage of attraction with their interesting accounts of the operation of the tunnel kiln. Lantern views were used to illustrate their talks which proved of tremendous interest as emphasized by the many questions directed to them by the delegates.

"Experiences in a Sewer Pipe Plant and What Happened When We Changed from Day to Piece Work," the title of a paper read by C. A. Millar, was an interesting account of the increased interest in their work on the part of the employes of the plant with an accompanying amazing increase in plant efficiency upon the introduction of a piece work system. A reduction in kiln drawing time of from one and one-half days down to five hours is only one instance of the remarkable advantages gained in placing the piece work system in operation.

HOW CLAY WORKS THRU DIES

Some of the theory connected with die construction and various factors to be considered with regard to the type of clay and class of ware to be made were ably pointed out by L. Haigh of the Hadfield-Penfield Steel Co., Bucyrus, Ohio, in his short but very educational paper on "Dies for Various Clay Products."

F. L. Ferguson, Ontario Agricultural College, Guelph, delivered a highly educational paper on "Experimental Work in Tile." Much valuable work of great aid to farmers and drain tile producers is being done by the Ontario Agricultural College, as was shown by Mr. Ferguson. The official photographing of the entire group of convention delegates closed the morning sessions.

SEE EFFORTS OF ANCIENTS IN CLAY WORKING

On Wednesday afternoon, about fifty of the members present were the guests of Dr. C. T. Currelly at the Royal Ontario Museum. The pottery exhibit at this institution comprises one of the finest in the world. In ancient Chinese pottery it excells any other collection in the world and actually contains half of the world's entire supply. Because of the interesting description given by Dr. Currelly who is a close student of pottery, the trip thru the museum proved of keen interest. He pointed to old Persian jars that dated back to the eleventh century. Then he showed old Turkish ware, Italian pieces, English goods, Chinese pottery dating back to the sixth century and vases and jars from Greece that were made in the third millenium before Christ. Besides these, were shown pottery of Babylonia which was made seven centuries before Christ, Egyptian ware and the pottery of Palestine thru a period back to 2,000 years before Christ.

A banquet that was superior to any others held in many years took place in the main dining room of the Carls-Rite Hotel on Wednesday evening. Approximately one hundred and fifty guests partook of the delicious food, and enjoyed the splendid speeches and the unusually delightful musical program. The large number of ladies present was a welcome innovation.

GOOD SPEAKERS GRACE PROGRAM

The clever and humorous Millard F. Gibson acted as toastmaster and those who have ever seen him take this part know that he is the right man in that place. Among the speakers were Rev. Byron Stauffer, one of Canada's greatest leaders and orators. He warned his listeners of the dire necessity of purchasing Canadian manufactured goods so as to bring back the country's exchange on a par with the United States.

Other speakers included D. C. Merkely of Ottawa, R. P. Stewart of Medicine Hat, J. V. Scott and Controller Alfred McGuire of Toronto. Following the conclusion of the program a large number of the guests remained to dance in the Wistaria Room.

A motion picture showing clay and coal handling was shown to the delegates on Thursday morning at the Strand Theater, thru the courtesy of Mussens, Ltd., Toronto, representing the Barber-Greene Co. How various plants use the equipment furnished by this concern to good advantage in speeding up their production and cutting down labor requirements was well illustrated in this film.

Executive Committee of the C. N. C. P. A. Who Undoubtedly Feel Amply Repaid for Their Hard Work by the Splendid Representation of Members at the Convention.

Dr. Correlly spoke on pottery and porcelain and reviewed some of the information he gave on the occasion of the visit of the delegates to the Royal Ontario Museum. He also pointed out some pottery possibilities in Canada and stated that there were clays in Canada that could be used to good advantage in the manufacture of glazed pottery. He furthermore told of the possibilities of making porous jars which might be used as refrigerators and which could undoubtedly find great sale if made on a commercial scale.

TELLS COMMON BRICK PROMOTION

At noontime, Secretary Keith sprang a surprise in the nature of a special luncheon at which a large number of the guests sat at one big table in a special room and enjoyed a get-together spread.

In the afternoon, Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America spoke on the possibilities of improving the brick industry thru organization, standardization and sales promotion. He explained what American brick manufacturers were doing in the nature of organization work and how the sales of common brick were being improved thru advertising and by means of booklets which showed the builder how to build with brick and gave suggestions as to house designs. The great influence that advertising had upon the sale of a product was especially emphasized.

Resolutions expressing appreciation of the splendid hospitality shown by the entertainment committee and one urging the government's support of the museum and advocating its extension were passed at this time.

Millard F. Gibson conducted the question box which brought up problems and questions pertaining to the various points which confront the brick and clay products manufacturer in his daily toil. Thus ended one of the most successful and delightful conventions ever held in Canada.

THOSE PRESENT AT C. N. C. P. A. CONVENTION

Jno. T. Read, Hamilton (Ont.) & Toronto Sewer Pipe Co.
J. T. Bietler, Lancaster (Pa.) Iron Works.
F. L. Steinhoff, **Brick and Clay Record**, Chicago, Ill.
W. McCredie, Belmont, Ont.
George Cutbush, Don Valley Brick Works, Toronto, Ont.
Chas. Harrison, Dominion Sewer Pipe & Clay Industries, Ltd., Swansea, Ont.
F. K. Wallis, Dominion Sewer Pipe & Clay Industries, Ltd., Swansea, Ont.
A. N. Wilkins, Toronto, Ont.
F. A. Elliott, International Clay Machinery Co., Dayton, Ohio.
Fred S. Price, Price & Smith, Toronto.
George P. Price, John Price, Ltd., Toronto.
Fred R. Paxton, Paxton & Bray, St. Catherine.
Robert W. New, Hamilton (Ont.) Pressed Brick, Ltd.
J. H. Morrison, Toronto, Ont.
G. L. Memory, Elk Fire Brick Co., Hamilton, Ont.
D. C. Merkley, Merkleys, Ltd., Ottawa.
John J. Mungen, Brown Instrument Co., Detroit, Mich.
F. R. McCannell, Milton Pressed Brick Co., Toronto.
J. S. McCannell, Milton Pressed Brick Co., Toronto.
A. McArthur, Shale Brick Co. of Canada, Cooksville, Ont.
Ryland H. New, Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton.
C. B. Lewis, Toronto, Ont.
Thos. Kennedy, Dominion Sewer Pipe & Clay Industries, Ltd., Swansea, Ont.
H. L. Hunt, Hunt & Gravestock, Toronto.
Thos. A. Hibbins, Stevenson Co., Wellsville, Ohio.
Frank B. Goodman, Sterling Brick Co., Olean, N. Y., Hocking Valley Brick Co., Logan, Ohio, Toronto.
George Frit, Hamilton, Ont.
W. H. Freeborn, Brantford.
Andrew Dods, Ontario Sewer Pipe & Clay Products, Ltd., Mimico, Ont.
John B. Davis, Inferno Clay Products, Stoney Creek, Ont.
Frank Crawford, Hamilton, Ont.
John Crawford, Hamilton, Ont.
F. Coleman, Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton.
Geo. Close Leamington (Ont.) Brick & Tile Co.
O. Baird, H. C. Baird Son & Co., Parkhill, Ont.
J. T. Read, Hamilton (Ont.) & Toronto Sewer Pipe Co., Ltd.
Frank A. Waterman, Toronto Brick Co., Ltd., Toronto.
Chas. H. Wallace, Clay Products Agency, Ltd., Toronto.
L. Haigh, Hadfield-Penfield Steel Co., Bucyrus, Ohio.
Jno. F. Wilson, H. C. Baird Son & Co., Parkhill, Ont.
Gordon C. Keith, Secretary, Canadian National Clay Products Association, Toronto.
Chas. A. Millar, Ontario Sewer Pipe Co., Mimico, Ont.
F. B. McFarren, Interprovincial Brick Co. of Canada, Ltd., Toronto.
R. K. Robertson, Shale Brick Co. of Canada, Ltd., Cooksville, Ont.
John Berg, Berg Machinery Co., Toronto.
Geo. Pygott, Geo. Pygott and Co., Mt. Dennis.
Richard Butwell, Humber Bay.
Frederick Carter, Erie Clay Products, Ltd., Port Dover.
Walter J. Bradford, Erie Clay Products, Ltd., Port Dover.
R. P. Stewart, Alberta Clay Products Co., Medicine Hat, Alta.
R. C. Shepard, American Dressler Tunnel Kilns Co., Ltd., Cleveland.
Conrad Dressler, American Dressler Tunnel Kilns Co., Ltd., Cleveland.
Geo. Curtis, Curtis Bros., Peterboro.
N. B. Jackson, Toronto Pottery Co., Ltd., Toronto.
Joseph Keele, Department of Mines, Ottawa.
Fred Longwell, Sheetsville (Ont.) Brick Co.
W. J. Packham, Brampton (Ont.) Pressed Brick Co., Ltd.
J. M. Covenlock, Seaforth, Ont.
A. S. Laing, Shale Brick Co. of Canada, Ltd., Toronto.
F. W. Booth, Booth Brick & Lumber Co., Toronto.
W. A. Warwood, Toronto.
M. Murray Dillon, Erie Clay Products, Ltd., Port Dover, Ont.
W. R. Rogers, Ontario Department of Mines, Toronto.
T. H. Graham, Inglewood, Ont.
Norman A. Yaek, N. A. Yaek, Walkerton, Ont.
J. H. Brickles, Toronto (Ont.) Sewer Pipe Co., Ltd.
Geo. H. Scott, Shale Products, Ltd., Inglewood, Ont.
C. H. Brooks, "Canadian Manufacturer", Toronto.
A. N. Cote, Shale Brick Co. of Canada, Toronto.
Geo. H. Frost, Toronto, Ont.
Wm. Robertson, Ontario Brick Plant, Mimico, Ont.
D. D. Omundson, Citadel Brick & Paving Block Co., Montgomery Village, Quebec.
John R. Price, Price & Cumming, Hamber Bay, Ont.
P. Kerwoc, L'Islet (Quebec) Brick, Ltd.
L. C. De Wett, Federal Engineering Co., Ltd., Toronto.
G. H. Mowers, Federal Engineering Co., Ltd., Toronto.
Wm. S. Watson, Wayne Forge & Machine Co., Toronto.
F. L. Ferguson, Ontario Agricultural College, Guelph, Ont.
H. Bush, Shale Products, Ltd., Inglewood, Ont.
Andrew Snelgrow, Beaverton, Ont.
Chas. Pratt, Medulta Stoneware, Ltd., Medicine Hat, Alta.
W. G. Bell, Bailey & Bell Fire Brick Co., Toronto.
W. H. Wood, Guelph, Ont.
John R. Haggans, McColl Bros., Ltd., Toronto.
J. H. Millar, Acme Brick Co., Ltd., Edmonton, Alta.
Herbert J. Sissons, Redcliff (Alta.) Pressed Brick Co., Ltd.
W. J. Nicholson, National Fire Proofing Co. of Canada, Ltd., Toronto.
John Curtin, Lindsay, Ont.
Percy Waddington, Canadian Fireclay Products, Ltd., 326 Confederate Life Bldg., Toronto.
A. K. Inch, Buff Pressed Brick of Hamilton, Ltd., Hannon, Ont.
J. C. Wright, Proton, Ont.
J. Booth, Booth Brick and Lumber, Ltd., Islington.

* * *

A. C. S. Meeting Promises To Be Successful

As mentioned in the last issue of *Brick and Clay Record* the annual meeting of the American Ceramic Society will be held February 21 to 24 at Hotel Deshler, Columbus, Ohio. A splendid meeting is anticipated and special attention will be given this year to the entertainment of ladies who accompany members to the meeting.

Section Q and the banquet will occupy the first two evenings, and on Thursday trips will be taken to the Ohio State University and the manufacturing plants with which the vicinity of Columbus abounds. The industrial division will have separate sessions and the new division of Ceramic Decorative Processes will meet for permanent organization. One or more sessions will be devoted to kilns, saggers, and problems of burning.

* * *

Nebraska Ass'n Meeting Well Attended

One of the most successful conventions in the history of the Nebraska Brick and Tile Association was held at Lincoln Hotel, Lincoln, Nebraska, on January 12 and 13. Forty brick and tile manufacturers were present, deeming the two days away from their businesses well spent in the exchange of ideas and the talking over of various problems which different manufacturers have to contend with.

A very fine program had been arranged and was followed in detail. Speeches on a number of subjects were delivered by prominent Nebraska men. Subjects discussed were general financial conditions, production and transmission of power, and uses and value of brick and tile as building materials.

The following officers were elected: H. H. F. Waterman, president; J. Fred Smith, vice-president; O. H. Zumwinkel, secretary and treasurer. On the executive committee were appointed Hugo Polenske, J. W. Turner, A. H. Farrens, Frank Burnham and O. R. Martin.

BRICK *is* KING

Allen E. Beals, of the "Dow Service Daily Building Reports" Reviews Business Past at Common Brick Men's Convention —Brick to Hold Important Place in American Industry— Vast Amount of Work in Architects' Offices "Hanging Fire"

By Allen E. Beals

Secretary, Allen E. Beals Corporation, New York City

YOUR PROGRAM has me down for a talk on "Business; Retrospect and Prospect." The title was suggested by your secretary and the more I pondered it the more impressed I became with Mr. Randall's sense of humor. Note carefully the words immediately following the word "Business" and you will see that when you are asked to view the subject with hindsight and foresight a pair of "specs" are vital aids to the process. From my own observation it is extremely doubtful if you will find much that looks like real business even with the aid of the most powerful "specs", as you trace the events of the last half-decade.

My part in this great convention is a most modest one, because I find myself in the uncomfortable position of an outsider telling those of you on the inside of matters with which you are vastly more familiar, as practical manufacturers, than am I, an economist. The subject to which I have been assigned to speak, is one that calls forth the oratory of praise and commendation to you for your patience and perseverance during a most trying and perplexing five years. It calls for the oratory of a seer or prophet, but being neither a clairvoyant nor profiteer, I feel my impotence ere I have even addressed my topic.

I shall assume to address you as tho you were a board of directors met to ponder the past and weigh the prospects of the immediate future, and as the only safe means of gaging the probable course of events that are to transpire is by measuring the course of these same events in the immediate past, I shall ask you to step back with me a few years so that we may find the nebula out of which the present business fabric evolved.

624,000,000 SQUARE FEET OF BUILDING IN 1916

The year 1915, with its 613,000,000 square feet of construction erected, marked the point of maximum expectation for all building material manufacturers, altho the growing restlessness of Mexico, cast its shadow over the investment markets, especially as they touched the mortgage situation. But the momentum gained by the increasing pressure upon supply as felt in the closing months of 1914 resulted in production schedules that lapped well into the middle of 1916 with construction topping the highest peak the country had ever recorded up to that time, 624,000,000 square feet of construction was erected, representing an output of basic building materials totalling the unheard-of figure of $1,700,000,000. Building material plants were operating up to eighty-five per cent. of capacity, a level which has not since been attained.

Toward the latter half of 1916, building material producers began to feel the humidity of coming darksome events. The war clouds of Europe were beginning to sweep over the world. Money began to feel the chill of caution. Labor began to rally around its home-land colors and the rate of building material production began to slough off as plant capacity dropped to lower percentages.

Something like artificial stimulation was applied to construction work in general in 1917 and by summer the intuition of material producers began to be realized in a decided slackening of building demand. This movement was definitely articulated when, following the declaration of war by this country, the year closed with only half the amount of square feet of construction completed, or 358,000,000 square feet.

WAR CONFUSING TIME FOR MATERIAL PRODUCER

American participation in the World War was just as truly without precedent in relation to building material as it was to diplomacy, finance and commerce. No manufacturer could turn to his old records to discover his course of action in a period of such national emergency like that which existed in 1918.

The story of the patriotic sacrifices of the clay working industry has not yet been adequately written, but it nevertheless deserves a niche high in the annals of spontaneous cooperation and endeavor to surmount almost insurmountable obstacles. A chapter could be devoted to the part that brick played in the war-winning program. Factory extension, housing development and other war-time requirements for safe and fireproof construction soon sapped the reserves in manufacturers' hands.

I well recall the shudder that passed over me when I confirmed the rumor that production of clay products had been doomed to curtailment to the extent of fifty per cent. of normal capacity. I chilled at the contemplation of an eventual peace time condition arising out of a barren national brick supply in the face of a demand even then developing for homes and commercial structures and the effect such a condition would have upon prices and our national welfare. I was moved to vigorous protest when on top of all that the order came curtailing the supply of fuel to clay working plants to the extent of curtailing production to between twenty-five and thirty per cent. of capacity.

BUILDING STOPPAGE IN FACE OF GREAT DEMAND

Analysts of the building situation were alive even in those days to a condition of country-bidding that eventually would lead to a national stalemate in building construction and we have passed thru an actual fulfilment of that contemplation. We have seen what a national shortage of basic building materials can mean to our national prosperity and it shall be the purpose of this paper to outline to you the evolution of those events.

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*Read at the Common Brick Manufacturers' Association meeting, New York, February 1.

But before that could come to pass, there seemed necessary, a further decree finally shutting off all so-called unnecessary construction entirely and the potential consequences of this order constituted the darkest days of the war-time period, for building material manufacturers.

The depth of despair is best shown by stating the drop in square footage of all building construction completed for 1918 from 358,000,000 square feet in 1917 to only 185,000,000 square feet in 1918, representing a total construction outlay for the country only a shade greater than the metropolitan district of New York would require for a single normal year.

When the armistice was signed there flashed forth from Washington a telegram asking the advice of the construction industry as to the advisability of immediately releasing all the bars of restriction upon so-called unnecessary building construction. I was subsequently informed that mine was the only voice raised in protest against such precipitary action.

1919 RISES TO 458,000,000 SQUARE FEET

That objection was based upon the knowledge of an inadequate supply of basic building materials in the hands of manufacturers and on the advice of the Department of Labor that labor was not to be immediately re-allocated to peace-time industries. When the War Department advised that it would be the better part of a year before the men in uniform overseas would be returned to this country, there seemed to be nothing developing out of such an order but a literal stampede for building materials.

The year 1919 developed a record of 458,000,000 square feet of building construction erected. Note the difference between that volume of completed building erection and that of 185,000,000 square feet for the year preceding it, and you need not be wearied with any further recounting of the basis for the opposing telegram.

Let us see how this stampede developed thru 1919 and 1920.

Nation-wide commerce was hungry for world trade. We all recall the process of human expansion. Mills resumed and sought in the market business in sufficient volume to keep their greatly expanded war-time mill capacity employed. Other lines soon began to feel the buying power of several million men in uniform pouring into this country to purchase citizens' clothing, marrying and otherwise taking up the pursuits of peace.

The war-time policy of cost-plus construction in 1919 taxed the capacity of all basic building material manufacturers. Cost seemed no object. It was merely a matter of immediate delivery.

HALF-BILLION SQUARE FT. OF BUILDING COMPLETED

Small wonder it is that with such impetus the square footage of completed construction for the country reached the half billion mark in 1920 representing in money value the appraisement of the entire building material production capacity of the country, totally almost $1,700,000,00 of the year 1916.

That figure represents total market value of all basic building materials, but it also represents a production capacity of far less than the eighty-five per cent. at which material plants were able to operate in the year preceding the declaration of war.

In other words, building material value was raised to an unaccustomed height by pressure of demand and it is almost a country-wide question today as to whether this valuation is to be maintained in 1921 and 1922 and beyond, or whether there is to be a permanent recession in building material values.

Before we leave the retrospective, let us trace, briefly, the causes of this tremendous upheaval in valuations of building materials by following the process of cause and effect.

BUYING DEVELOPS EXTENSIVELY

Commercial enterprise found itself at the close of hostilities with a potential buying movement that seemed to give promise of long duration. Cotton, wool, grains, metals and all the commodities familiar to the daily market report felt that the time was right to prepare for the vast era of prosperity. Buying developed with lavish hand and it soon became apparent to manufacturers of ordinary commodities that the way to perpetuate this buying movement was to expand their plants. They argued that the way to permanent prosperity was to produce in quantity and, by thus leveling demand with supply, or vice versa, it would be possible to bring about a reduction in the national cost of living in comfortable graduations.

Never before had a condition arisen when the merchant went into the market that he could not buy at will and in quantities he required, such common place commodities as brick, lime, steel, cement and even sand and gravel, not to mention electrical conduit and similar equipment.

His consternation was profound when he discovered that no matter how good his credit, or how urgent his need, these basic building commodities were not available even in the most meager quantities on specified date. The merchant could not expand his store, the manufacturer of cottons and woolens could not expand his mills as the exigencies of the existing retail and wholesale markets demanded, even tho he were willing to pay premium prices for spot deliveries or even approximate specified deliveries.

BRICK CAN BE KING

That point, in my estimation, marked the turn in national prosperity. It was the fulfillment of the stampede conditions that were foreseen clearly when the Government declared that common brick was a non-essential commodity and that the basic building material industries of the country were the best able to sustain the most drastic fuel restriction orders. The United States of America has lived to see a practical demonstration that Brick can be King, along with Coal, Cotton and Steel, each in its turn.

The only alternative was for the household commodity manufacturer to utilize his inadequate factory capacity to the best purposes possible and he promptly turned to quality production instead of quantity production and charged accordingly and up went the Cost of Living with a bound.

We now find ourselves in our retrospective tour at the middle of 1920 with the Presidential election fast approaching. Factories are beginning to find that they cannot by mere resolutions of a board of directors, turn about the basic fundamentals of economic law. Quality production with attendant fictitious price levels cannot be maintained when the buying power of the public is curtailed either by necessity or by protest. Estoppage is sure to follow and that is precisely what has taken place.

BUILDING SITUATION TODAY

The situation as it presents itself today is:

1. Demand for building construction exists.
2. Supply of building material is still far below normal.
3. Investment powers of the United States are greater than ever before known.
4. The subject of adequate space provision is higher in the public mind than it has ever been before, insuring immediate action either from private or public sources.

Stepping now from the retrospective into the prospective point of view let us note what destiny has placed in our path.

The one thing that characterizes the immediate future and dominates the horizon is Demand. In other years this factor has been a matter of conjecture. This, today, is the one certain thing in your calculations.

Then what about supply? Your rail transportation problems will not present the same obstruction to your progress that characterized your schedules of 1920. Labor, for a time, probably will be more efficient. It will not be permanently cheaper, at least for a year or so. If you are banking upon an influx of immigration, release yourself from this deception before you are disappointed.

Much was heard last year of the inpouring of wheelbarrow labor, but little was heard of the outpouring of the same commodity. P. A. S. Franklin, of the International Marine shows in his annual report, issued this month, that the net gain in immigrants for this country in 1920 was only 181,000 and most of these were agricultural laborers and with them came their wives and children, thus making probably a net gain in labor supply of somewhere around 50,000 men. We have impending anti-immigration laws in committee at Washington, which, being favored aggressively by organized labor, stand a good chance of enactment.

HOPEFUL ABOUT EASIER COAL SITUATION

Fuel manipulation such as harrassed you in brick production during 1919 and 1920, is being inquired into vigorously and when the limelight of publicity is turned upon conditions that retard the production of a commodity around which hinges the solution of a national emergency problem, easement can at least be hoped for.

When the United States Senate delegated the task of discovering the cause of the stagnation in building construction industries, to the Committee on Reconstruction and Production, it probably thought it would trip up on a fine entanglement of artificial manipulation.

But when the report is finally completed it will probably show that the brick industry emerged from the war-time restrictions deep in the vale of despondency and dragged itself up out of the abyss unassisted by the same sort of paternalism that plunged it almost into a state of approximate oblivion.

It is probably a matter of vivid memory to you of the craft that immediately after the armistice was signed the splendid men of capacity and experience who succeeded in no small measure in bringing the war to a speedy conclusion, thru coordination of various industries, and so forth, promptly packed up their grips and went home to re-establish and retrieve their own personal business affairs. Those who were left to aid in bringing the American industries, that were thrust out of alignment for war purposes, back upon their feet and in approximately their former relations to their markets, were of a different type, and were apparently more beset with ideals than with practical ideas.

ATTEMPTED TO STABILIZE BUILDING MATERIAL

We recall, as one glowing instance, the attempt to stabilize building material and other prices at the very start of the reconstruction period. Even the law was appealed to to strengthen this effort, altho practical men knew that there was an inexorable law of supply and demand that would function whether or no.

No one in authority seemed to sense the necessity of giving fuel and labor allotment priorities to the clay working industry in appreciation of the sacrifices it made and often were forced upon it during the war emergency, so as to permit a reserve stock to be piled up before the national stampede for building materials should start. There would have been nothing like the present housing shortage had such a course been followed.

As we look into the immediate future, is not the situation somewhat analogous to that of the period about which we have been thinking? Then, there was a potential demand. Now there is a potential demand even greater. Then, there was an inadequate supply of basic building commodities. Now there is a similar shortage. Then, fuel costs were high. So they are now. Labor was an uncertain factor then, ditto, the present.

WORLD TRADE POTENTIAL FACTOR IN BUILDING

No one at that time expected 1919 to develop the construction movement it did, but the fiction of world trade fired the minds of business men and they prepared, or rather tried to prepare it. The world trade is still a potential factor and will become an actuality as the rate of exchange becomes more closely adapted to the changed political conditions of the world.

But even discounting that factor, which is a possibility of the future, rather than of the immediate present, there is the unsatisfied demand for housing, now fostered by public opinion backed and crystalized by state and national quickening of interest in the subject.

There is enough housing work on the potential slates of architects to make up for a normal building year of a billion dollars. Such a total would absorb every brick you could produce with the rate of production under which you have been operating for the last year or more. This class of construction has been neglected to a considerable extent since the signing of the armistice because commercial construction seemed to afford the investor greater security in the form of longer leases and at higher rentals. The tendency now is to enact legislation that will place a premium upon non-residential types of construction, except where it can be proved that it is not for speculative purposes.

IMPORTANCE OF BRICK FOR COMMON WELFARE

The building industry finds itself at the beginning of the new year conspicuously in the public eye. It is unaccustomed to such a conspicuous place in the world's affairs. The people are beginning to find out that there is something else besides mud, coal and labor in the production of brick. People are beginning to realize that brick is synonymous with shelter and holds a place in equal prominence and respect to the cotton or the wool that makes the garment, or the wheat that insures us food. The public is beginning to sense the fact that brick is not merely gathered from the nearest mud hole and streaked with straw and laid in the sun to dry. The public is to awaken to the fact that brick is the product of brains, and capital, careful organization and administration just as is steel and cotton and wool and wheat. The mud and the labor are in the same category as the southern cotton field and the ranging sheep, neither of which function in our scheme of life unless started on their way in a useful career by capital and men of capacity and ability.

If you wonder why we are heading into 1921 accompanied by investigation and inquisition, it is because the building material industry is at last coming into its rightful position among other vital commodities that make for the comforts, peace and prosperity of a nation. No one in authority in the past ever bothered very much about you or your product until they realized the fact that American brick bats had just as great a relative part in winning the war as did American steel and American ships. Let it be remembered that American steel and American ships may have taken the boys across the pond, but it was American brick in American storehouses in France and England that kept the American fighting food fit for American fighting men.

BRICK WILL OCCUPY HIGHER POSITION

There are traditions and conditions in the clay working industry that are unknown to the public. Most people, I find, still think that a brick cannot be made without straw. The great American public does not realize why brick cannot be as plentiful as the grains of the sands of the sea. These investigations are going to ultimately bring your industry to a higher status among other American industries, but when the State or Federal Government starts out to inquisition your product into a condition where you are expected to sell your product below cost of manufacture, then you are going to find it necessary to present your side of the matter at the time and place it will do you the most good.

Looking out into 1921 should not bring visions of disquietude to you. It will not be a year of very early resumption, but there is in prospect a demand that may develop into a stampede like that of 1919 as the year progresses toward its meridian. Building material manufacturers are preparing their schedules along this line, namely, that of caution, until they can safely sense the year's demand and then prepare for the biggest year of all in 1922. Their greatest asset is demand, and of that the best approximation any one can make is that it is sure.

* * *

Recommend Revision of Federal Tax

The Chamber of Commerce Committee on Taxation, of which Hamilton Stewart, vice-president, Harbison-Walker Refractories Co., Pittsburgh, Pa., is a member, has drawn up a report comprising fifteen recommendations for federal tax revision.

Members of the United States Chamber of Commerce have been asked to vote on the following points:

I. The excess-profits tax should be repealed.

II. Revenues now derived from the excess-profits tax should be obtained mainly from taxes on incomes.

III. There should also be excise taxes upon some articles of wide use, but not of first necessity.

IV. Should a sales tax be levied instead of the taxes mentioned in proposals II and III above?

V. Should a sales tax be levied in addition to such taxes as are mentioned in propositions II and III above?

VI. Members voting in favor of question IV or question V above are asked to indicate below the type of sales tax they advocate:

(a) A General Turnover Tax.
(b) A Limited Turnover Tax.
(c) A Retail Sales Tax.

VII. There should be a moderate and graduated undistributed-earnings tax on corporations.

VIII. Each individual stockholder of a corporation should pay his own normal tax.

IX. Income from any new issues of securities which may lawfully be made subject to federal tax should be taxable.

X. American citizens resident abroad should be exempt from the American tax upon income derived abroad and not remitted to the United States.

XI. Profits arising from sale of capital assets should be allocated over the period in which earned and taxed at the rates for the several years in the period.

XII. An exchange of property of a like or similar nature should be considered merely as a replacement.

XIII. Net losses and inventory losses in any taxable year should cause redetermination of taxes on income of the preceding year.

XIV. Ascertainment by the government of any tax based on income should precede payment.

XV. Administration of income taxation should be decentralized.

* * *

Iowa Clay Men Will Meet Once Again

Plans are well under way for revival of the annual convention of the Iowa Clay Products Manufacturers' Association and the dates for this years' meeting have been fixed as Feb. 24 and 25 at the Chamberlain hotel in Des Moines.

This organization has not held a meeting since before the war period but for the past several months there has been a more or less general feeling among the clay producers of the state that they should get together again and talk shop over the changing conditions.

H. S. Vincent of Ft. Dodge, Iowa, is president of the organization and H. R. Straight of Adel, treasurer. By reason of the office of secretary being vacant President Vincent has asked C. B. Platt, secretary of the Permanent Buildings Society to take the lead in planning the February convention.

The program has not yet been completed but among the questions to be discussed by leaders of the industry are "Labor Saving Machinery," "Tunnel Kilns," "Cost of Accounting and Depletion Charges."

On the opening night of the convention there will be a banquet followed by a dance and particular attention will be paid to the entertainment of the wives, sisters and lady friends of the clay men, and a special invitation will be made to have every man bring a lady with him.

* * *

Eastern Association Again Postpones Meeting

The New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society has postponed its annual meeting until a later date, which will be decided at an early meeting of the executive committee. After a first postponement from a January meeting, February 4 was selected as the date for the event, which is one of the most important affairs in local clayworking circles. The proximity of this time with the forthcoming annual of the American Ceramic Society at Columbus, Ohio, has led to the second annulment in the plans. A number of important matters are pending, to be discussed at the gathering, as well as election of officers for the ensuing year.

* * *

Burning Vitreous Ware with Electricity

Industrial electric heating, which began with the melting of iron in electric furnaces, has proved so successful that its use has spread rapidly.

Tests have recently been made to determine the practicability of an electric furnace for vitreous enamel kitchen ware. Thirty-six miscellaneous pieces were fired in an electric furnace, and a most careful inspection showed that the results were very good as to polish, absence of pitting, and general smoothness. Due to the ease with which a definite temperature could be maintained, it was a very easy matter to secure good results with little attention.

* * *

Make Bricklaying Part of Manual Training

An experiment is being tried in St. Louis, Mo. It is the teaching of bricklaying and masonry work in the manual training schools. If the idea is successful it is possible that the movement may become generally adopted thruout the country.

HOW *to* REBABBITT *a* SHAFT BEARING

Second of a Series of Articles Containing Helpful Information for the Clay Plant Repair Shop —Correct Processes in Pouring Babbitt Bearing

By G. H. Radebaugh

Asst. Manager Shop Laboratories, Dept. of Mechanical Engineering, University of Illinois

BABBITT METALS are divided into three classes. 1. Tin, antimony and copper alloys. 2. Tin, antimony, copper, and lead alloys. 3. Tin, copper, and zinc alloys. The name babbitt is derived from that of the inventor, Isaac Babbitt, of soft metal lined bearings. The term babbitting has been applied to the process of applying soft anti-friction metals inside a hardened shell for the purpose of producing bearings.

Babbitt metal is extensively used. It can be purchased from most dealers in machinery and from repair or jobbing shops. It is marketed in the form of small blocks or pigs. To avoid blow holes in the babbitt lining of a bearing, it has been found that, by covering the mandrel or shaft while heated with a thin coating of a solution composed of one or two pounds of Jersey red clay to three gallons of water, the formation of bubbles will be prevented and the lining will have a smooth surface. Oil causes the babbitt to blister.

It is important when pouring that the metal is poured from a ladle that has a rounded spout rather than one with a flat sharp spout which tends to produce a porous area or blow holes. Putty is preferable to clay for luting or sealing the ends and sides of the bearings as the moisture in the clay tends to cause sputtering. Exercise caution when pouring babbitt into a box; be absolutely certain that the inside of the box is dry. If damp it causes the heated metal to sputter and sometimes it explodes with force enough to scatter the heated metal.

HEAT BEARING BEFORE POURING BABBITT

Prior to pouring the babbitt, the bearing should be heated to prevent the molten metal from becoming chilled and sluggish. The common method of determining the pouring temperature of babbitt metal is by testing with a dry pine stick. If it chars, the metal is of the correct pouring temperature. Never heat the babbitt to a red heat. This destroys the usefulness of one of the most important alloys in the metal. When heating the babbitt in a forge fire be very careful that none of the metal is scattered in the fire. It will find its way to the tuyere iron and close up the blast openings.

Removing the old babbitt—Fig. 1. The old babbitt is removed by taking a flat cold chisel and driving it into each side of the box between the babbitt lining and the cast iron shell. The old babbitt will break off in the manner shown. This is not a difficult operation as many times the entire piece of babbitt is removed intact. The old metal can be remelted and used again. If the box is covered with oil and muck, place the base and cap in the forge fire and heat until the oil burns off.

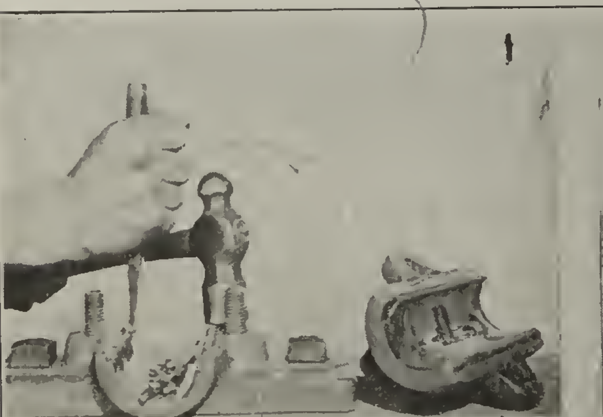
CAST IRON SHELLS NOT OFTEN TINNED

Holding the babbitt lining in place—Fig. 2. In this view the anchor holes are shown in the base and cap of the box. These anchor holes are used to hold the babbitt lining in place. Cast iron shells are rarely ever tinned, which is very common practice for the bronze shells such as are used on automobile engine bearings. If these anchor holes are not in the box and no other method provided they should be dulled as it is important that the babbitt lining is held by some method. When removing the babbitt sometimes the anchor holes do not clean. One of the best ways to remove the metal left in the holes is by heating the box in the forge fire. These holes must be clean when rebabbitting.

Leveling the shaft or mandrel.—Fig. 3. After the box has been thoroly cleaned from all loose babbitt metal and oil the shaft or mandrel is then located and properly lined and leveled. A very useful blocking scheme is to use small wedge blocks as shown in this view. After the shaft is brought to the proper position by adjusting the wedge blocks, it must be more securely held by placing flat blocks under each end. It may be necessary to use paper shims in this blocking operation.

CUT NOTCHES IN PAPER LINERS

Cutting paper liners.—Fig. 4. These liners are used to go between the base and the cap of the box. In cutting the small notches along the inside edge of the cardboard liners both the top and the bottom can be poured at the same time. These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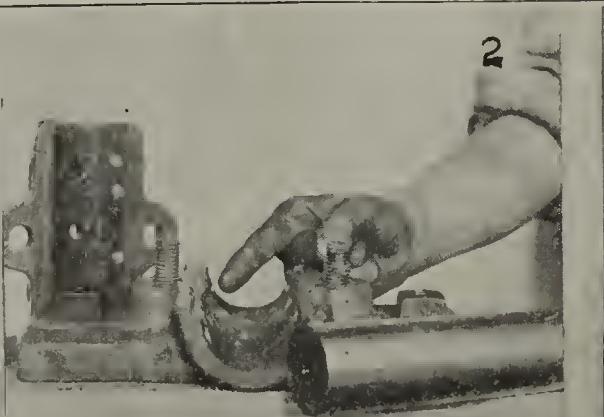
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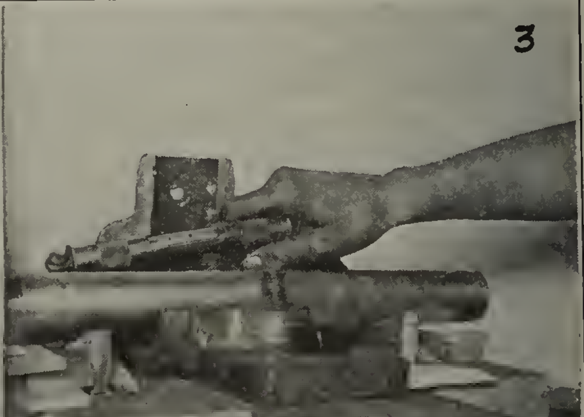
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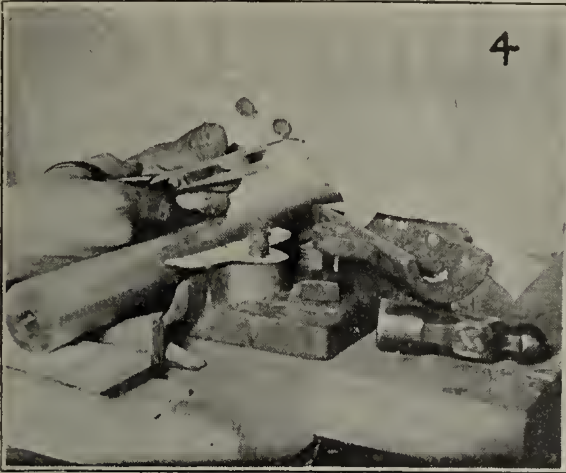
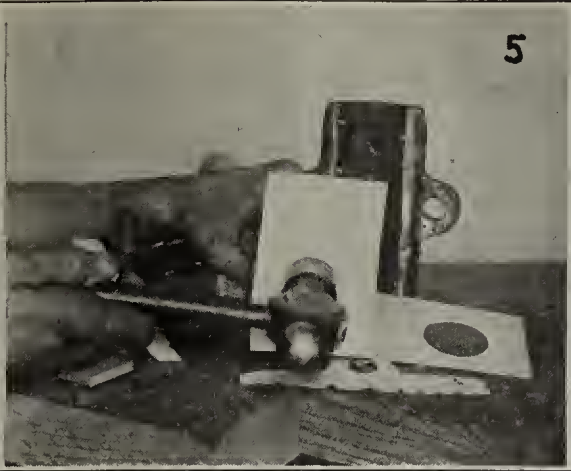
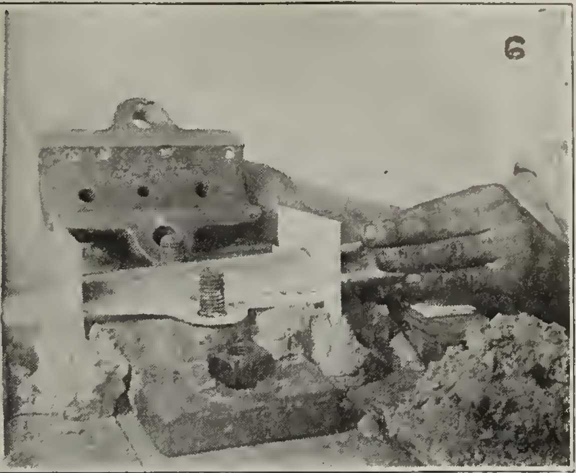






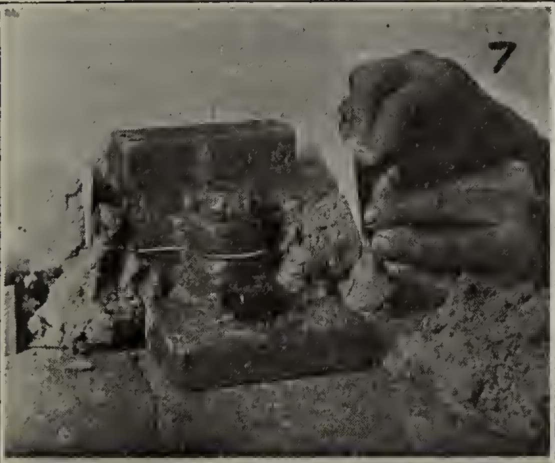
notches are cut in the manner shown to permit the breaking apart of the cap and base after the babbitt has been poured.

Cutting the paper ends.—*Fig.* 5. These are used to keep the hot babbitt from coming in contact with the damp clay which is used for sealing the ends and sides. This is done to prevent the hot metal from running out. If the hot babbitt comes in contact with the moisture it tends to cause sputtering. Before placing the liners, as shown in the next operation, the cast iron box should be heated. This will insure a more even flow of the metal.

Inspecting the location of the liners.—Fig. 6. The liners are now all in place and the lower half of the box is ready to receive the cap. A mixture of fire clay and water making a paste the consistency of putty is used for luting and sealing around the box to prevent leakage.

CLAMP CAP IN PLACE

Closing the box.—Fig. 7. After the liners have been put in place and the shaft properly lined up the cap is ready to be placed on the base. It is good practice to clamp the cap in place with the two clamp bolts as it insures the proper location of the cap. With the putty or clay all the open edges are sealed. Good luting materials are putty, fire clay or ordinary clay. The bearing cap should be provided with a hole for pouring the metal thru and one or two holes to permit the escape of gases. These holes or a bearing as shown should be about three-eighths of an inch in diameter.

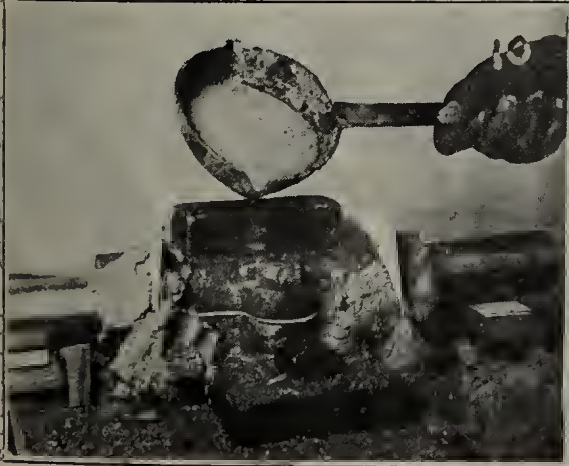


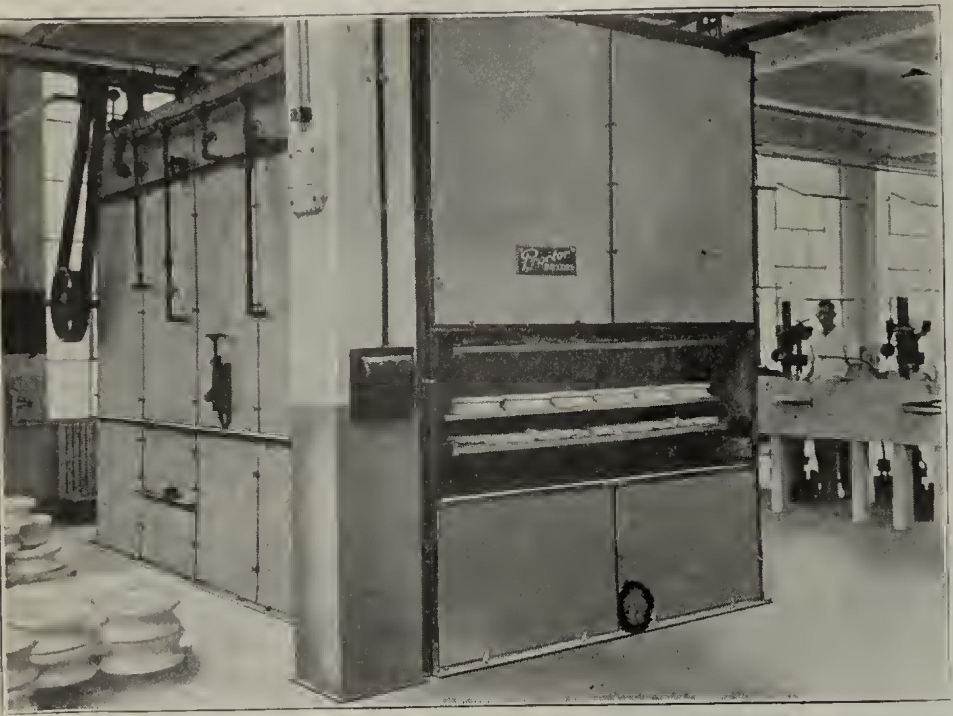
Heating the babbitt.—Fig. 8. The babbitt scrap that has been removed from the box with the necessary amount of new metal is placed in the ladle and heated very slowly until a dry pine stick will char when placed in the molten metal. This test is the one commonly used by trained mechanics when heating babbitt metal. Do not heat the metal to a high temperature. This can be noted if the pine stick fires. It is not good practice to leave babbitt on the fire longer than necessary. It should be poured as quickly as it comes to the proper heat. To secure a good serviceable bearing these principles must be closely observed.

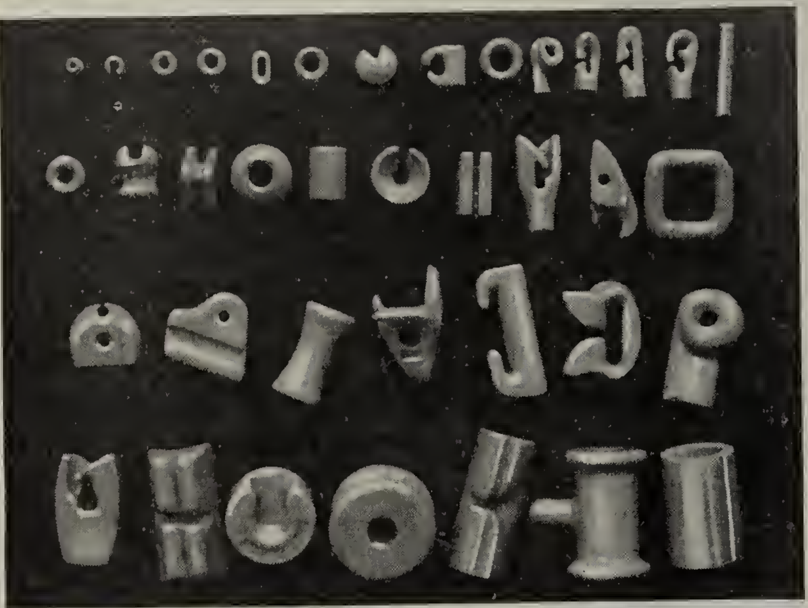
CLEAN BABBITT BEFORE POURING

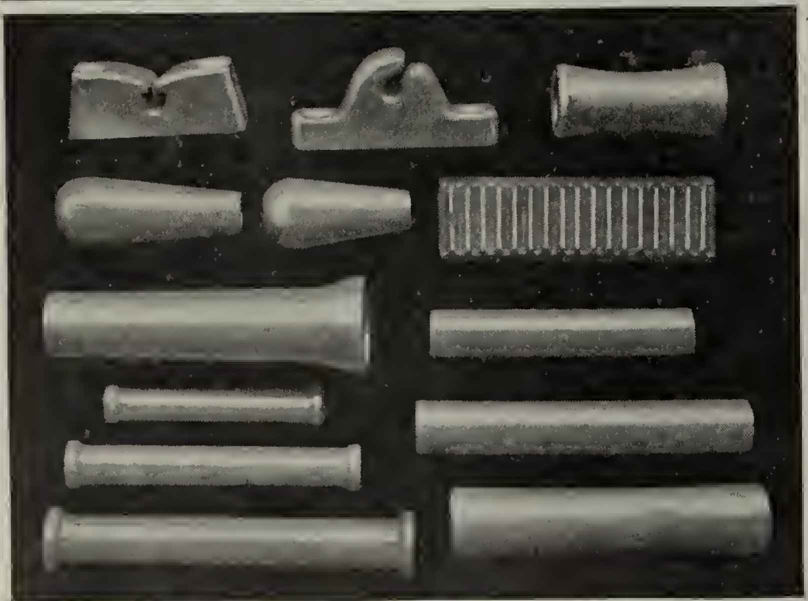
Bearing of uniform composition.—Fig. 9. Before pouring, the babbitt should be stirred thoroly to insure a lining of uniform composition. The reason for this is that the alloys in the metal have a tendency to separate and seek different levels in the ladle. Previous to pouring, the top of the molten babbitt should be cleaned off as illustrated in the operation and the refuse should not be permitted to fall into the forge fire.

Pouring the babbitt.—Fig. 10. In this operation care must be exercised in pouring the metal quickly. One of the secrets of good bearings is the manner in which the metal is poured into the box. Failures are caused by having the box damp instead of warm as suggested









Drying Porce

of Widely Varie

Mitchell-Bissell Co.
Trenton, N. J.

"Proctor" Dryers do away with difficulties in drying porcelain specialties—no matter how widely varied in size and thickness, or intricate in shape, the pieces may be.

These automatic machines make drying a systematic, progressive operation, each stage of which is exactly conditioned and timed. By reason of their positive, mechanical control and application of heat, air and moisture in proper proportions throughout this progressive drying process, "Proctor" Dryers insure the thoroughly uniform drying of the material, at all times.

The experience of the Mitchell-Bissell Company, Trenton, N. J., among the many users of the "Proctor" Automatic Porcelain Dryer, furnishes decided proof of the superiority of this method of drying for their own and similar wares.

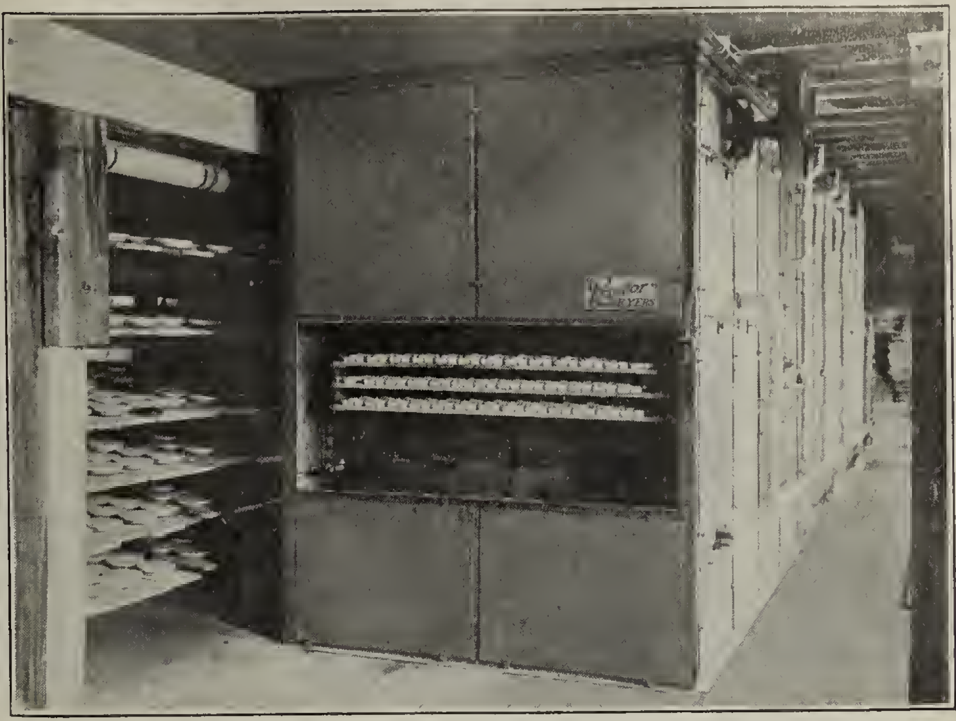
A view of their drying department, equipped with a "Proctor" Dryer, is shown in the upper left-hand corner of this page. Below are pictured the porcelain loops and guides for textile machinery, manufactured on a broad scale by this company. These are made by the dry-press process. The variety of shapes is plain to be seen; the sizes vary from the 3/16″ eyelet at the top, to the 9″ oval loop at the bottom. The thickness of the various pieces ranges from 1/8″ to 5/8″.

The results obtained from this dryer have far exceeded all expectations of the Mitchell-Bissell Company. Not only has the drying of their product been accomplished with perfect satisfaction, but the efficiency of the "Proctor" Dryers has resulted in a daily output which is greater by a liberal margin than the guaranteed capacity of the machine.

"Pro

in Specialties

hapes and Sizes



Cook Pottery Co.

Trenton, N. J.

Another noteworthy installation of "Proctor" Dryers, is that of the Cook Pottery Co., Trenton, N. J., makers of electrical insulating porcelain specialties.

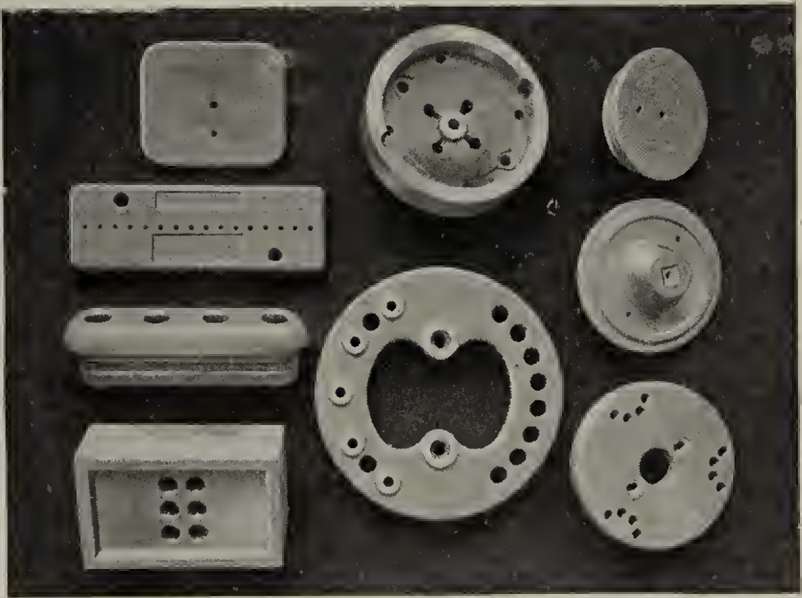
The photograph in the upper right-hand corner of this page gives a glimpse of their unique drying arrangement—a "Proctor" Dryer three stories in height, with openings on each floor so that the ware from the green to the glazed state is handled in one continuous process.

A few of the products of the Cook Pottery Co. are shown on the right. The top group shows the "Camel Back", a very difficult piece to dry. This piece and all the others are dried perfectly, to the extreme satisfaction of the makers.

"Proctor" Dryers in these two plants, and in the case of every installation, have made radical reductions of drying time. The Cook Pottery Company's small pieces, which formerly required 1 or 2 days to dry, are now dried in 3½ to 4 hours. Large pieces are dried in 8 hours—the old method required 7 to 10 days.

An investigation will show you other extreme improvements over old drying methods, made by "Proctor" Dryers—the maximum of drying efficiency realized. They save time, labor, space and steam. They control results; facilitate and increase output. Altogether, they pay.

Send for our Catalogue No. 55, showing "Proctor" Dryers, Automatic Stove Rooms and Mangles for Porcelain, General and Sanitary Ware.



PROCTOR & SCHWARTZ, Inc.
Seventh Street and Tabor Road, Philadelphia, Pa.
New York Chicago Providence

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RYERS

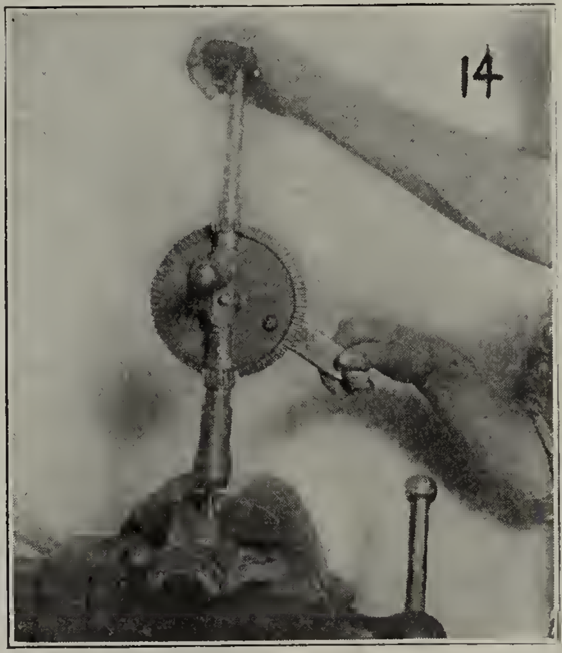
in one of the other operations, by using a ladle with a sharp or flat pouring spout instead of a round spout; by not having the box ends and sides properly sealed, and by not having enough material in the ladle to fire the bearing.

Removing the cap from the base.—Fig. 11. After the bearing has been poured it should be permitted to cool before trying to separate the cap from the base. This operation is performed according to the manner shown in the view. The clamp bolts are removed and a flat cold chisel is driven between the bearing cap and the base. This causes that metal to separate which ran thru the small notches in the liners. This operation should be performed on each side of the box so that there will be no tendency to loosen up the bearing metal from the cast iron.

LINING MUST BE SMOOTH

Inspection of bearing.—Fig. 12. In this view the bearing cap has been removed which permits the removal of the shaft or mandrel. A close inspection can be made of the babbitt lining to determine if it will make a good bearing. If defective, the babbitt lining is removed and the pouring operation is repeated. A lining to make a good bearing must be smooth and free from cold shorts.

Cleaning the babbitt lining.—Fig. 13. When pouring a bearing the hot metal runs into the small crevice between the cap and base. This causes the babbitt lining to have fins and uneven edges. These should be removed by using the bastard or coarse file as shown. The edges of the babbitt lining should be filed to about a three-quarter inch radius. The bearing surface of the babbitt lining should be filed and scraped to a smooth even finish. The cap and base are fitted together testing the fit of the bearing on a mandrel or shaft. New liners are cut and fitted. They should be thick enough to permit the clamping of the cap and base together with the clamp bolts without binding the shaft.



REMOVE FILLED AIR HOLES

Drilling the oil hole.—Fig. 14. In the cap of the box oil holes should be provided. Holes used for gas escapes are filled with babbitt during the pouring operation and it becomes necessary to remove this metal. One method is drilling with the breast drill as indicated in this view. Another very effective method is to core out these holes with wooden plugs, care being exercised that a free passage for air exists between the plug and the sides of the hole. After the metal cools these plugs are driven out and a clean hole is obtained thus eliminating the use of the breast drill.

Cutting the oil grooves.—Fig. 15. In this operation the oil grooves are cut by using a round nose goose-neck chisel. After the grooves have been cut, smooth the bearing down with a half-round mill file and by scraping. Grooves are cut in the surface of the bearing so as to distribute the lubricant evenly over the entire length of the journal. They are also cut so that they will collect the oil which would otherwise run out at the ends of the bearing and return it to some point where it may again be used. The common dimension for oil grooves is 3/32 inches to ¼ inches in width and 3/32 inches to ⅛ inches in depth.

* * *

The Railroads Labor Troubles

Railroads, since they have been returned to private ownership, have increased their earning power to a very great extent. Due to increased operating cost, it is claimed by the roads that net profits have not increased in anywhere near the same proportion. The continuance of national agreements has been a burden which the railroads are struggling to throw off, and which labor unions are fighting to maintain.

It is claimed that strict adherence to labor rules has cost the railroads millions of dollars thru an attendant inefficiency of labor application. An instance is cited to show how the rules work in some cases. On an engine about to go to its train, it was found that a light was broken in the cab. A threatening storm caused the engineer to insist that repairs be made. There was no engine carpenter on duty at that time, and, altho the foreman could have made the repairs himself in thirty minutes, it was necessary to call a carpenter. The result was, the train was delayed one hour and thirty minutes, and the employe doing the work received five hours' pay for work requiring thirty minutes.

If given a free hand in the situation, the railroads believe they could make a reduction in their payroll of from $400,000,000 to $500,000,000 and could increase efficiency to a great extent, which would ultimately result in a reduction of rates. However, as would naturally be supposed, the labor unions are fighting any move on the part of the roads which may result in wage cuts.

* * *

Wages Dropping in New England

Bricklayers along with other building craftsmen in New England face a reduction in wages. In some centers the contractors already have given notice of reductions. The figure generally is being set at from ninety cents to one dollar an hour as against one dollar to $1.15 during the past year or more. In Boston it is proposed to reduce the rate to ninety cents, while at Danielson, Conn., contractors are offering but 87½ cents an hour. The attitude of the bricklayers on these reductions still is problematical.

The BUILDING SITUATION *in the* EAST

THE LAST FORTNIGHT has shown considerable improvement in construction circles in the eastern districts, and it seems certain that the industry has passed thru its slowest period. The change in aspect mentioned in the last issue of *Brick and Clay Record,* is still more noticeable today in the increasing volume of plans out for estimates; moreover, contracts are being awarded, and building materials are beginning to move. The rebound is coming, slowly but surely.

New York, itself, is not the best guide at the present time in regard to activity in the construction industry, for the recent state legislative investigation has left conditions in rather an unsettled state. The material market has not the stability to warrant immediate action on the part of the prospective builder, and he is rather anxiously awaiting a definite attitude in regard to price levels for labor and materials. Labor in the metropolitan district seems well in hand at the moment; there is no talk of wage reductions on the part of the employer, nor wage advances on the side of the worker. The former, unquestionably, is destined to come, but just how soon is rather problematical.

NEW JERSEY BEGINS BUILDING INVESTIGATION

Following the lead of the Empire State, New Jersey is now about to embark in an investigation in the construction industry in different important industrial centers. The legislature is arranging a bill to cover the inquiry, with broad powers for the committee in charge; an initial appropriation of $10,000 is provided to carry out the features of the investigation program. It will cover all phases of work, including scarcity of dwellings and other buildings, any general practices on the part of builders and material dealers or labor, difficulty in securing mortgage loans, and the like. The committee will comprise three members from the senate and two from the assembly, or five in all. Approval of the measure is expected soon, and it will take effect at once.

The trend of affairs in the different centers may be expressed as follows:

New England: With textile mills, iron-working plants and other basic industries of New England resuming production, even tho under reduced operating schedules and lower wage scales, the activity is going to assist the construction operations, and there is a far greater increase in projects at the present time than evidenced in many months past. The contracts now being let are totaling well over the $2,000,000 mark weekly, or a little less than one-half of the awards in the same time of a year ago.

SOME CLASSES OF CONSTRUCTION ACTIVE

At Boston and vicinity there is a fair call for brick and other primary building materials for a number of alteration and extension jobs, and there is quite a little work going the rounds in the line of store buildings, office structures, garages, as well as public buildings. New York brick in this market holds at $28 per thousand delivered, and Connecticut production at $32. Face brick maintains at the well established levels of $50 and $60 for best selections. There has been an easing-off in the fire brick market, and the best grade is now obtainable for $90 a thousand, delivered, as against $100 a few weeks ago, with good material securable at $80. Fire clay is $30 a ton, and operating under slower call. Terra cotta partition blocks show no change from last recorded figures in *Brick and Clay Record,* and other burned clay products, such as sewer pipe and flue lining indicate stability. Standard sewer pipe is quoted at thirty per cent. off list at leading material dealers, and double-strength at ten per cent. off; flue lining is thirty per cent. off, and wall coping, twenty-five per cent.

PROVIDENCE SHOWS SIGNS OF ACTIVITY

There is a noticeable betterment in the building material trade at Providence, Pawtucket and vicinity. The mills are starting up and a number of mechanical plants have construction under way on extensions. The supply market shows no change, nor is there any immediate inclination on the part of local dealers to meet lower levels. Common brick still holds at $38 to $40 per thousand, delivered, and fire brick hits the high-water mark of $110 a thousand for No. 1 stocks. Drain tile, three inch, are selling at twelve cents per foot, and four inch at sixteen cents; flue lining, eight and one-half inch size, is forty-eight cents per foot, and 8½x13 inches seventy-two cents. Wall coping varies from thirty-two to ninety-six cents per foot, according to size.

Late in January, workmen in the building trades at Boston, affiliated with the United Building Trades Council declared a strike, following a disagreement with contractors, represented by the Building Trades Employers' Association, in regard to wage scale. The men have refused to sign an agreement covering any great period of time at a rate less than $1 an hour, and even this rate is unsatisfactory from their standpoint for any extended number of months. The employers, on the other hand, have refused to sign any agreement at more than ninety cents per hour, holding this as the maximum. The situation, as it now stands, does not seem liable to early settlement, and even anticipated conferences between representatives of both sides, have been abandoned. The men have been receiving on an average of $1 an hour.

EFFECT OF BOSTON STRIKE FAR-REACHING

The strike in Boston is of far more than local importance, for upon the outcome will hinge the established wage rate at such centers as Worcester, Springfield, Holyoke and other cities. Contractors here are keeping in close touch with the Boston situation to know just where they are at in connection with spring building activity, coupled with wage scale.

New York: Important building projects are coming to light in a very encouraging fashion in the Greater City, and plans are out for bids on a number of apartment houses, office buildings, hotels and business structures, as well as a considerable number of minor jobs. Architects Warren & Wetmore are asking for bids for a new fourteen-story apartment on West End Avenue, to cost about $450,000; Architects York & Sawyer are commencing plans for a new brick and limestone office building on Forty-second Street to cost about $1,000,000; and the New York Central Railroad has plans under way for extensions in its office building on East Forty-sixth Street, to cost about $400,000. The Peoples' Hospital, 203 Second Avenue, has acquired a site at 222-232 East Fifteenth Street, for a new hospital structure to cost about $1,000,000.

BRONX SHOWS LARGE TOTAL NEW BUILDING

In line with the construction activities in Manhattan Borough in 1920, set forth in the last issue of *Brick and Clay Record,* it is interesting to note that the Bronx district shows up with substantial totals in this same period. Plans were filed for 1,115 new buildings to cost $18,585,600, and for 3,314 alterations and improvements, representing a valuation of $3,739,141, or a grand total of $22,324,741 in estimated building costs in this section in the year just closed. The 1919 figures stand at $23,383,789, while those for other years are appreciably lower, with the exception of 1915, the banner year, when construction totals aggregated $28,119,100.

Plans are under way at New York for the establishment of a permanent conference to promote cooperation, study and betterment in the building and construction industry. The organization will be known as the National Congress of the Building and Construction Industry, and branches will be organized in other cities. The membership will comprise contractors, subcontractors, manufacturers of building materials, supply dealers, laborers, architects and engineers. The first meeting was held on January 25, and will be followed by other early gatherings.

COMMON BRICK MARKET QUIET

The common brick market in New York continues to operate under very slow attitude. There is plenty of material available from the Hudson River points, but few takers in comparison with normal business. Arrivals have dropped off perceptibly, and with less than ten cargoes coming in during the previous week, the last week of the month closed without an arrival. There is but slight distribution, compared with a total of over forty-five cargoes available in the market at the present time, and the demand from New Jersey and Brooklyn is very slight. Prices hold at $16 to $18 for the best grades of Hudson River production in wholesale lots alongside dock, while dealers are asking $22.50 per thousand delivered in Manhattan Borough. Reports from up-river points show that the yards are closed, and a rather waiting attitude in getting ready for 1921 spring production.

Other burned clay products in the New York market are experiencing a lessened call, but notwithstanding, prices hold well at the established levels. Face brick shows no change, ranging from $45 to $55 for good material; fire brick is not showing quite the stability of many weeks past and $75 and $80 material, specified as No. 1 Standard, is securable, as against $5 and $10 above in former quotations. Drain tile, wall coping, and other more minor burned clay goods are in fair demand, and show no price variation. The same holds true with partition tile, which still maintains at levels varying from $220 to $320 per hundred square feet.

UP-STATE BRICK PRICES

As a basis for comparison, prices of common brick in different points in northern New York are of interest, the following figures being the delivered quotations. At Albany, the price is $35 a thousand; at Troy, $21; at Utica, $33.50; Syracuse, $27; Rochester, $25; Buffalo, $30; and Binghamton, $28. Fire brick ranges at from $70 to about $105 in these cities, the latter price being that asked by Albany dealers. Fire clay is averaging around $25 and $30 a ton.

New Jersey: The Building Trades Employers' Association at Newark is endeavoring to bring down labor wage scales, and following a disagreement with workers, a lock-out was made effective on January 21. The controversy commenced with the painters and now encompasses all branches of the industry, totaling about 8,000 workers. The painters have been receiving $8 a day and have sought an advance to $9. The proposition is being used in collective manner, to all intents, to reduce present scales in all of the trades. The situation shows a dead-lock at the present time, each side holding out for its aims.

MAY REDUCE WAGES TWENTY PER CENT.

Construction work is at low ebb in the different important cities of the state, including Newark, Trenton, Paterson and the Hudson River cities. At Perth Amboy and in the Raritan River section, a concerted move is under way by the building trades organizations to bring about a revival in essential work; in the Amboys, there is talk of reducing wage scales about twenty per cent., it being believed that this is the big hindrance at the present time, and will be so, too, in the spring. Newark building permits have scored at lower levels than in many months past, and not a really important project has been launched in this district since the first of the year. Trenton is about in the same situation.

There is certainly no high spot in the building material markets of the different centers of New Jersey, rather, from viewpoint of demand, low periods have been more than reached. The encouraging tone to the situation, and anticipation of spring business is helping considerably to maintain prices, and there are no noticeable reductions to be recorded.

NEW JERSEY PRICES

Common brick is being taken from the Hackensack yards at $25, while Trenton producers, acting in a retail capacity, are delivering at $27. At Newark, dealers are holding to a $25 figure for New York production. The Raritan River section is showing up $21 wholesale brick, with a $25 dealer price. Fire brick has receded to an $80 figure at Newark and vicinity, with the same quotation at Trenton, altho here for best grade material $85 is being secured. The call for other burned clay products is light, including hollow tile, partition blocks, drain tile, sewer pipe and so on. Prices of these commodities are maintaining at established levels with no indication of decline.

Philadelphia: The bulk of interest at Philadelphia, Pa., seems to be centered in lower prices, and these all the way down the line, including labor and materials. There is no concerted action, however, yet to be seen for a move in this direction, and construction work with regard to new projects is practically at a standstill. There is quite a little alteration work going forward, but the sum total in consumption of materials is very small as compared with normal, or even near-normal times.

OUT-OF-TOWN WORK SOUGHT

Local contractors are bidding considerably on out-of-town work, for central Pennsylvania is showing up quite well when the situation in the Quaker City is viewed. At Pottstown, bids are being asked for a new Y. M. C. A. building, four-story, brick and terra cotta, about 35x125 feet; plans for a new church at Baltimore are being figured by a number of Philadelphia contractors, as is also other work in this city. Philadelphia architects hold promise to some important local projects, and contractors and dealers would like to see them mature.

Burned clay products and other building materials are moving slow in the Philadelphia market, as is to be expected with the present trend of affairs. Despite reduced call, however, prices of basic commodities hold firm, such as brick, terra cotta, hollow tile, drain tile, sewer pipe and the like. Common brick is being sold by local producers at $25 a thousand, delivered; fire brick is around the $75 and $80 level; and face brick is quoted at from $42 to $60 according to selection. Philadelphia brick manufacturers have curtailed output to a considerable extent, and present stocks are more than ample to provide for the immediate call.

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Money Situation Improving Daily

The weekly statement of the Federal Reserve Board, issued January 28, indicates an aggregate reduction of $29,500,000 in bill holdings, accompanied by a decrease of $29,800,000 in Federal Reserve note circulation. Gold reserves show an increase for the week of $10,400,000 and total cash reserves an increase of $18,700,000, while net deposits were increased by $14,700,000. As a consequence of these changes, the banks reserve ratio rose from 48.5 per cent. to 49 per cent.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

THE TREND IN POTTERS' MACHINERY

REPORTS OF COMMITTEES at the recent annual convention of the United States Potters' Association revealed some interesting data as to the installations of the new equipment in many different pottery establishments.

Readers of this department will undoubtedly be interested in the nature of equipment installed and the tendency of pottery plants as to equipment for new and modern factories.

The reports made at the potters' meeting state that the Jackson Vitrified China Co., of Du Bois, Pa., is being equipped with three tunnel kilns.

The Hopewell (Va.) China Corporation, recently placed in operation, making a line of semi-vitreous dinner ware, has built three biscuit and four glost kilns and two pair of eight tile decorating kilns. All the kilns are equipped to burn oil exclusively. It has all of the latest types of labor-saving devices, including McMasters Stove Rooms, Kinnard Batting-out Machines, Bucher-Smith Ball Bearing Jiggers, Lather, and so forth. All the machinery is driven by individual electric motors.

The Mt. Clemens Pottery Co. has added a bisque and glost Harrop tunnel kiln and doubled their capacity, expecting to have the new part in operation before the new year.

The Pope-Gosser China Co., at Coshocton, have completed and put in operation two kilns making it a nine-kiln plant.

The Owen China Co., of Minerva, Ohio, have placed in operation three new kilns making it a ten kiln plant.

The Summit China Co., Akron, Ohio, placed in operation a new kiln making seven kilns.

INSTALLS NEW TYPE OF BATTING-OUT MACHINE

The Sebring (Ohio) Pottery Co. and the Saxon China Co. report the installation of what appears to be an entirely new batting-out machine. This consists of a lever to which is attached a batting block, the arrangement being so made that the batter is brought down to the block in such a manner as to make a perfect bat. It is contended by these two firms that with this appliance an inexperienced man is able to bat out with less trouble and effort than with the old system. The batting block, being counterbalanced, is raised and lowered with ease.

The Mercer Pottery Co. has installed an automatic machine for making pins used by the glost kiln men. The machine produces the pins in the form of a solid ribbon each upper section of pins lying between the lower section. The width of the ribbon is equivalent to twenty-seven saucer pins. It will be readily understood that due to the fact that the individual pins are not allowed to hang separately from the die, but are interlocked with one another, they cannot possibly twist or become crooked. It is found that pins can be made in much larger quantities with less labor and better pins produced.

The Mercer Pottery Co. has also installed a new type of dipping mangle which not only carries the ware away from the dipper but conveys it from three different points to a general collecting point in a stillage room. Dipping mangles have also been installed by the Homer Laughlin China Co., The Sebring Pottery Co., the Mayer China Co., and the Pope-Gosser China Co.

IMPROVED STOVE ROOMS ADDED

Sagger machines have been installed by the Homer Laughlin China Co., the Mayer China Co., and the W. S. George Pottery Co. Automatic stove rooms of the ferris wheel type have been installed by the Homer Laughlin China Co., and one conveyor stove room made by the Philadelphia Textile Machinery Co., and by the Mayer China Co. The Onondaga Pottery Co. have also rebuilt practically all of their stove rooms with improved methods of drying.

The Saxon China Co. reports the installation of two pug mills working in conjunction with one another. The one horizontal and the other upright, the clay being delivered for the second pugging from one pug mill to the other by means of bucket conveyors. Additional pug mills have also been installed by the W. S. George Pottery Co. at Plant No. 2.

A number of conveyors have also been installed by the Saxon China Co. for delivering clay to the clay shops and this company also reports the extensive use of conveyors thru the factory in relation of which is an automatic Barber-Greene loader for taking care of broken saggers, cinders, and so forth.

The Salem China Co. erected a coal unloader made by the Fairfield Engineering Co.

EQUIP BOILERS WITH AUTOMATIC STOKERS

The Onondaga Pottery Co. has installed a Galion coal unloader with a hopper storage and also equipped their boilers with underfeed automatic stokers. This company has also put into service five gasoline tructractors for handling fuel and materials.

Taylor, Smith & Taylor Pottery Co. have installed a Godfrey system for unloading their coal cars and a Lowden overhead distribution system for handling coal in the factory. The W. S. George Pottery Co. have also installed a Lowden overhead distributing system for distributing coal to their kilns. The committee also received a report from the Mt. Clemens Pottery Co. saying that they are installing thirty-two Proctor dryers. The system which these dryers operate is what is known as the humidity temperature control system.

"It is evident from the information gained by the committees, that many manufacturers are installing various labor-saving devices, either for the handling of coal or raw materials; also, erecting some special machines which have been devised in the last two years. Further than that, little work appears to have been done to solve any more of the potters' mechanical problems."

* * *

Pottery Imports Increasing Steadily

That the importation of ceramics from Germany, Japan and England continues to soar, is indicated by Federal statistics which have just been announced. At the same time, it is common knowledge that the American pottery manufacturers are besieged with orders from domestic consumers, and the situation as a whole would indicate that the consumption of ceramics is greater now than ever before.

For eleven months ending December 1, 1920, the importation of all classes of ceramics, including earthenware and china, both plain and decorated totaled $10,781,877 against a record for the same period in 1919 of $6,634,599, or an increase in favor of the 1920 term of $4,147,318.

In the race for American business, Japan is out-stepping England, while Germany is pulling up in third place. However, Japan for eleven months in 1920 sold American importers ceramics to the valuation of $4,228,501, and for the same length of time in 1919 its American export business totaled but $1,846,817, which shows a growth in business of $2,381,684 in 1920 over that of the first eleven months of 1919. Under normal conditions, this increase alone is sufficient to keep a 25-kiln American pottery in active operation for a 12-month period.

A survey of the late records also shows that in November, 1920, Japan sold the United States ceramics to the value of $364,836 as against a business of $275,289 in November 1919, or an increase in favor of November 1920 of $89,547. Going back into 1918, for eleven months period, Japan shipped ceramics into the United States at a valuation of $2,044,132, and when this business is compared with the record for the same term in 1920, an increase in favor of the latter period of $2,184,369 is shown. These comparisons shows that Japan has not been slow to develop its American trade in ceramics, which may be attributed in the main to a handful of American import houses which have been making a leading feature of this class of merchandise.

England has taken second place in the shipments of ceramics to the United States, and for eleven months ending December 1 last, its American exports of this class of merchandise amounted to $3,211,510. For the same period in 1919, the record shows a shipment of ceramics from the United Kingdom to the United States of $2,147,389, or an increase of $1,064,121, in favor of the 1920 period. Going back to the eleven month record of 1918, England shipped the United States ceramics valued at $2,184,369, which record shows that the 1918 term was better than that of 1919.

For November 1920, England shipped ceramics to the United States valued at $390,832, and for the same month in 1919 the business amounted to $220,500, an increase of $170,332 in favor of November 1920.

For eleven months in 1918, and this record can be based only on sales following the signing of the armistice, Germany shipped ceramics to the United States valued at $69,865. For eleven months in 1919 this business soared to $661,226, and in 11 months in 1920 reached $721,674. The comparison between 1919 and 1920 shows $60,448 in favor of the 1920 period, while that for 1918 cannot be properly considered.

Importations of French ceramics to the United States for eleven months during 1920 shows a business of only $566,545 as against a business for the same period in 1919 of $636,380 and of $534,477 for eleven months in 1918. This 1920 record would indicate that French manufacturers are not having the American business they formerly held, and this may be due to several causes.

Much ware is being offered by importers this year which is being classed by the receivers as "Bavarian" merchandise. This, of course, is German creation. The line consists of both dinnerware and art pieces. The word "Bavaria" is stamped on the bottom of the dinnerware offerings, altho the stamp is not to be found on the bottom of all the art merchandise. This would seem to indicate that in offering the American buyer "Bavarian" ware, there is a tendency to eliminate the plain earmark of being "Made in Germany". While the valuation of imported ceramics may seem large, the fact must not be overlooked that the American ceramic manufacturers are also out after export business, and records show that such effort has not been in vain. For instance, during eleven months ending December 1, last, the exports of earthen and stoneware were valued at $1,104,314 as against a record for the same period in 1919 of $1,066,677.

In the sale of sanitary pottery, these manufactures exported were valued at $679,586 in eleven months in 1920 and the record for the same term in 1919 was down to $520,576.

The demand for American-made china is soaring rather rapidly, as the exports of this class of merchandise for eleven months in 1920 amounted to $724,505, and for the same term in 1919 was down to $469,499, and in 1918 for the same term the business amounted to only $278,310.

Taking the November, 1920, export sale of American china which amounted to $79,899, this is more than double the sale of the line in November, 1919, when the exports were listed at only $37,286.

In the exporting of sanitary ware, American manufacturers shipped out of the United States in November, 1920, were valued at $100,508 as against a sale record in November, 1919, of $63,855.

It is the opinion of those who have been watching the increase in American exports of ceramics, that when generalware plants are placed in operation on the Pacific Coast, there will be a decided increase in the exports of American wares.

* * *

Buyers Demand Higher Quality Ware

That day is fast passing when a buyer of semi-porcelain ware will accept any kind of merchandise from a pottery manufacturer. For some years it has been possible to sell any kind of ware to a jobber or department store buyer, but now that the "war is ended," buyers are insisting upon a better grade of ware than they have been in the habit of receiving.

It has not been denied that in recent years manufacturers have urged speed in production, and because of this situation, it has been a case of quantity rather than quality.

Within the last few months, however, many casks of ware have been "returned to dinnerware manufacturers because of defects. This is the beginning of the end of the time when "anything will sell."

As a result of this situation, the manufacturers in turn have been compelled to insist that better ware come thru the shops. Hereafter quality is to be insisted upon.

Hundreds of letters have been received by manufacturers within the last year or so from buyers complaining about character of shipments. On account of conditions prevailing in the trade, with especial reference to demand, the manufacturer merely advised the purchaser that if he did not want the goods, others were waiting to buy them.

The situation reveals two facts. When ware is rejected by a customer, it is a reflection upon the manufacturer and in turn, the workmanship is a reflection upon the employe.

There will always be a heavy demand for good American-made dinnerware, but this can only be maintained thru cooperation of manufacturer and workman.

Some very heavy losses have been suffered by manufacturers during the last few years on account of inferior ware. The percentage of graded selected ware of late has been the lowest in the history of the trade, while the percentage of "thirds" has been the largest ever recorded. It has cost the manufacturer just as much money to produce a "thirds" tea as it did to produce a selected piece of stock. When overhead is taken into consideration, the manufacturer has lost money in the production of a "thirds" tea, and therefore compelled to make up his loss on the best stocks.

When a pottery manufacturer can send only a few dozen plates to the decorating shop for high grade border work, and the majority of the plates in the kiln going to the "thirds" or "lump" pile, something is wrong. That such a condition will have to be corrected is generally admitted by all who are close observers of the existing market situation.

⁂

America Can Control World's Pottery Market

At the recent annual banquet of the Western Potters' Club, Pittsburgh, Pa., January 19, an interesting and pertinent address was made by John H. Roth, engaged in the pottery business at Peoria, Ill. He said that there is no reason why American-made pottery cannot dominate the world markets without increasing the tariff on such wares. This cannot be accomplished, he pointed out, without improving the quality of the wares, which can be done easily, with reasonable reduction in price. Pottery wares, he said, should follow other American products in effecting a consistent reduction in prices under present conditions. Other speakers include E. A. McNicol and J. A. Lawrence, East Liverpool, Ohio; and R. T. Mitchell, Coshocton, Ohio. Harry Winteringer, Steubenville, Ohio, presided.

⁂

Buyers and Producers Try to Gauge Market

During the present market season, manufacturers of dinnerware were just as anxious to find out local conditions from visitors to the market, as the buyers were anxious to get a line on the situation relative to manufacturing.

⁂

Hand of Death Grasps G. L. Safford

George Llewellyn Safford, a pottery manufacturer of Monmouth, Me., died at his home in that town on January 20. Mr. Safford was born in Monmouth Ridge in 1847, and after his education in the public schools went into business with his father, an old time potter, later acquiring the business. He is survived by a widow and one married daughter.

⁂

Will Flee Cold Weather

D. E. McNicol, president of the D. E. McNicol Pottery Co., of East Liverpool, Ohio, and Clarksburg, Pa., has arranged to leave for Florida, where he will spend the remainder of the winter season.

⁂

George R. Gower Passes Away

George R. Gower, who had been connected with pottery concerns in Maine for more than half a century, died at his home in Bangor, Me., on January 20, at the age of 70 years. Mr. Gower was born in St. John, N. B., and moved to Portland, Me., when a young man, entering the employ of the Portland Stoneware Co. as a potter. When the Bangor Stoneware Co. was established and erected a pottery in 1880 Mr. Gower was one of the first men to enter the concern's employ. He remained with the company about ten years, during which time examples of his art were frequently exhibited at county fairs and elsewhere. Mr. Gower was employed by the Bangor company at the time of his death.

⁂

Pottery Man Speaks Before Hardware Club

Fred E. Owen, head of the Refractory Clay Products Co., of East Palestine, Ohio, was the principal speaker at the monthly meeting of the Columbiana County (Ohio) Hardware Club which met at East Palestine. His subject was "Pottery Products". A few years ago Mr. Owen with two associates started manufacturing electric porcelain specialties on a small scale at Newell, W. Va. The business grew, and later a seven kiln plant at East Palestine was bought. The latter plant was formerly operated by the Ohio China Co., which is now dissolved.

⁂

Company to Make Floor and Wall Tile

The Tunistian Products Co., New York, has been organized with a capital of $25,000, to manufacture and deal in floor and wall tile, and so forth. The company is headed by C. R. Neal, D. G. McConnell and E. C. Mussler, 45 Cedar Street.

⁂

To Manufacture Electric Insulators

Albert W. Pickford, of Philadelphia, Louis T. Frederick and John F. Griffin, of Valparaiso, Ind., principal owners of the Chicago Mica factory of Valparaiso, are the incorporators of the Fibroc Insulating Co., also of that city. The company will manufacture insulating materials for the electrical trade.

⁂

Stockholders Meet in Cleveland

The annual meeting of the stockholders of the Bedford (Ohio) China Co. will be held in Cleveland, Ohio, early in February. At this time there will be an election to fill the vacancy caused by the death at Canton, Ohio, a few days ago of Tony Wilson, who was a director and vice-president of the corporation. The product of this plant is marketed thru the offices of Brown & Reddrop, of Cleveland, Ohio, who are also the owners of the Sunshine Cut Glass Co., of that place.

⁂

Plans 40 Per Cent. Increase in Capacity

Capacity of the plant of the Alliance (Ohio) Vitreous China Co. is to be increased, according to General Manager William C. Brown. The clay shops are to be extended and a new dipping house will be arranged. The warehouse is also to be increased and the space of the commercial department enlarged. In all, the production of the plant is to be increased about 40 per cent. Three bisque and one glost kiln are now being operated.

⁂

Optimistic on Future Business

Jerry M. Porter, head of the Porter Pottery Co., of Clinton, Ky., who spent several days in Pittsburgh, Pa., attending the annual Pottery and Glass Exposition, has returned to the plant. It is the opinion of Mr. Porter that business conditions will continue active thruout the year, this view being based upon the inquiries and business the office is now receiving.

CURRENT PRICES *of* COMMON BUILDING BRICK, DRAIN TILE *and* HOLLOW BUILDING TILE

COMPARING the current prices with those of January discloses the more or less significant fact that, where last month price changes were frequent, in some instances a marked reduction taking place, this sheet reflects but few changes. It is difficult to say whether this fact portends a change for the better in conditions in the building industry, and that possibly building material dealers and manufacturers are beginning to find a market for their products, or whether it means that the price has now been cut down within the closest margin of production costs.

Common brick in a few cities showed a reduction, drain tile is holding its own, and hollow tile remained steady, Cleveland being the only city showing a change. The price in that city receded $10. Advices have been received from Salt Lake City, Utah, (not listed) that, following a price reduction of from 15 to 20 per cent. that city now boasts the cheapest common brick in the country. The new price is $12.50 (at factory).

The footnotes are explained at the bottom of the following tabulation:

	Common Brick Per M	Drain Tile (4") Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	$28.00	.12	
Boston, Mass.	30.00	.153	300.00£
Providence, R. I.	39.00	.16	
Hartford Conn.	30.00*	.15	
New Haven, Conn.	35.00	.10	
New York City	22.70	.17	
Albany, N. Y.	35.00	.085	
Utica, N. Y.	33.50	.08	
Syracuse, N. Y.	27.00	.08	
Oswego, N. Y.	40.00	.07	
Binghamton, N. Y.	28.00	.06	
Elmira, N. Y.	35.00	.08	
Rochester, N. Y.	25.00	.075	100.00
Buffalo, N. Y.	30.00	.055	150.00
Jamestown, N. Y.	35.00	.095	160.00
Allentown, Pa.	28.00	....	
Erie, Pa.	28.00	8.50¢	140.00
Philadelphia, Pa.	25.00	.07	115.00
Pittsburgh, Pa.	25.00	.08	150.00
Reading, Pa.	22.00	.07	
Scranton, Pa.	28.00	.08	
Newark, N. J.	25.00	....	
Paterson, N. J.	25.50	....	200.00
Trenton, N. J.	27.00	.10	
Wilmington, Del.	28.00	.08	
Washington, D. C.	24.50	.10	125.00
Baltimore, Md.	25.00	.10	125.00
Norfolk, Va.	26.00	.10	
Richmond, Va.	25.00	.12	
Huntington, W. Va.	23.00	.075	125.00
Fairmont, W. Va.	33.00	.06	146.50
Wheeling, W. Va.	30.00	.085	140.00
Atlanta, Ga.	18.00	.125	
Miami, Fla.	40.00	....	200.00
Tampa, Fla.	26.00	....	155.00
St. Petersburg, Fla.	28.00	....	166.50
Louisville, Ky.	25.00*	.0515	126.30
Lexington, Ky.	28.00	.10	
Memphis, Tenn.	20.00	.07	
Nashville, Tenn.	20.50	.08	134.70
Birmingham, Ala.	25.00	.25	116.00
New Orleans, La.	23.50	.10	
El Paso, Tex.	16.00	....	110.00
Houston, Tex.	25.05	.15	123.10££
Dallas, Tex.	24.00	.15	120.00££
Topeka, Kans.	25.00	.065	110.00
Little Rock, Ark.	20.00*	.12	
Oklahoma City, Okla.	22.50	.05	88.50
Cincinnati, Ohio	25.00	.0708	140.00¶
Cleveland, Ohio	22.00	.061	80.00
Columbus, Ohio	30.00	.065	
Toledo, Ohio	18.00	.06	135.00
Detroit, Mich.	20.00	.08	124.00¶
Evansville, Ind.	16.00	.04	110.00
Fort Wayne, Ind.	23.00	.06	120.00
Indianapolis, Ind.	19.00	.09	164.40
South Bend, Ind.	24.00	.04	151.62
Terre Haute, Ind.	19.00	....	
Bloomington, Ill.	25.00	.06	100.00
Chicago, Ill.	16.00	.08	112.50
Moline, Ill.	24.00	.08	120.00
Peoria, Ill.	19.50	.075	78.00
Green Bay, Wis.	21.00	.06	145.00
Milwaukee, Wis.	22.00	.08	145.00
Grand Rapids, Mich.	22.00	....	
Minneapolis, Minn.	20.00	.08	135.00
St. Paul, Minn.	20.00	.08	135.00
Davenport, Iowa	25.00	.08	130.00
Des Moines, Iowa	....	.12	120.00
Sioux City, Iowa	22.50	....	130.00
Kansas City, Mo.	25.00	.062	
St. Louis, Mo.	20.00	.085	145.00
Lincoln, Neb.	21.50	.08	100.00
Denver, Colo.	17.00	....	165.00
Butte, Mont.	16.00	....	
Los Angeles, Calif.	15.00	.05	100.00§
San Diego, Calif.	20.50	.105	92.50§
San Francisco, Calif.	20.00	.065	100.00
Portland, Ore.	21.00	.085	115.00
Seattle, Wash.	19.00	.09	115.00
Winnipeg, Man.	20.00	.13**	115.00
Toronto, Ont.	18.00	.075	
Halifax, N. S.	27.50	....	
Quebec, P. Q.	20.00	.07	

The prices of the commodities listed here are reported as delivered on the job, and are, therefore, higher than the plant prices. This should be taken into consideration when examining them. If you have any information that would tend to prove these prices incorrect, the editors of **Brick and Clay Record** will be glad to hear from you.

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% disc., 15 days.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipmen ; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Few Inches to Stack Aids Draft

Ofttimes sluggishness of draft in a kiln is due to a poor proportion of chimney construction in relation to the kiln volume. This is well illustrated by a case of a terra cotta company which encountered some difficulty with some of its kilns, which were located where they were completely surrounded by buildings higher than the stacks. This concern seriously considered the introduction of forced draft, but before going to that trouble they thought they might be near to the required stack diameter and height so that they could correct the difficulty by merely enlarging and raising the stack.

This was done by the terra cotta company and they corrected the trouble on these particular kilns. It was surprising, very surprising to the superintendent, to see how much difference an extra six inches in the diameter of the stack and an extra fifteen feet in height made in the condition of the draft of these particular kilns.

* * *

How a New Slag Brick Machine Works

As mentioned in a previous issue of *Brick and Clay Record,* the Bray Brick Machine Co., of Westfield, N. J. has designed a machine for the purpose of making brick or tile from molten material such as slag, trap, granite or any material that can be fused.

The material is taken from an ordinary blast furnace in a liquid state, passed thru a rotary distributor which automatically fills the molds as they pass under on an endless chain conveyor. When the molds reach the end of the conveyor, the forms containing the brick pass on to another conveyor, where the molds, which are collapsible, are taken from the product, and after a certain cooling process, of about twelve hours the product is ready for the market.

The machine will work twenty-four hours per day and every day and requires but ten men to turn out from fifty to seventy thousand brick per day. Production cost is reported to be very low as the product is made from what may be termed waste material.

An official test made by Columbia University of New York City has shown these slag brick capable of withstanding double the compression tests of granite. The machine is the result of about eight years of research work, and the company plans to lease them upon a royalty basis per thousand.

The Bray Brick Machine Co. expects that after a number of their machines are in use, they will help to relieve the shortage of building material and give the builder a product that is not prohibitive in cost. A public demonstration will soon be made to which all who are interested will be invited.

* * *

Ohio Drain Tile Men Discuss Current Topics

The Ohio Drain Tile Association held its annual meeting in Columbus, January 27, at the Chittenden Hotel, with about 50 members present. A number of manufacturers from adjoining states attended, and many important matters were discussed. One of the features was the discussion of freight rates and the purchasing power of farmers. It was reported that the sudden fall in the price of farm products had caused a slump in the demand for drain tile, but the belief was expressed that the condition would soon pass away. Officers for the coming year are: C. H. Hilty, Ada, Ohio, re-elected president; J. C. Poling, Ada, secretary; J. H. Wilson, Perrysburg, Ohio, treasurer. J. D. Ramsey, Stryker; F. A. McAllister, Richwood; Harry Landrum, Columbus; Leo R. Nelson, Beaverdam, and J. Leo Childs, Findlay, were elected on the board of trustees.

The local entertainment was provided by W. P. West of the Franklin Tile & Brick Co., and Harry Landrum of the Columbus Clay Co.

Phenomena That Clay Exhibits During Dehydration Period

Kiln burners have noticed that during the dehydration period of burning there is a tendency of the kiln to "stick" but this is because heat is being absorbed for drawing water from the ware and for breaking up the carbonates. Altho you are constantly adding more heat at this point, the temperature in the kiln does not rise because the clay is taking that heat to separate from it the molecules of water to which it is attached chemically, and the molecules of carbon dioxide which is combined chemically with the minerals in the clay.

The clay at this stage of the burn also expands. The chemical change taking place in the ware during its dehydration causes it to become larger in volume. This increase in volume of the clay is often noticed in making settle measurements on a kiln. The increase in volume is also noticed upon measuring the veritas firing discs at this temperature.

It is also during the dehydration that the clay will absorb acids more readily than raw clay does. A dehydrated clay mixed with lime will set like cement. The ware is far more porous at this stage than at others. Also, the strength of the clay at this point is very low and if a piece of ware finished at this temperature were exposed to freezing temperature, it would not stand without crumbling. The color also has not yet begun to be developed, and the ordinary red burning clay shows a pale pinkish shade.

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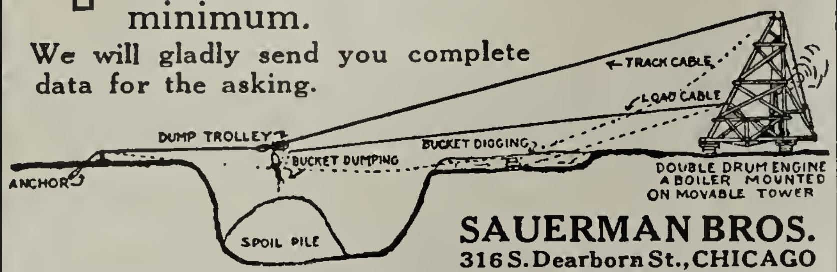

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Brick and Clay Record

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Brick Manufacturer Passes Away

J. W. L. Corning, president of the Chaska Brick & Tile Co., Minneapolis, Minn., died at his home January 7. Mr. Corning was born in Brooklyn, N. Y., in 1844. He moved to St. Paul, Minn., where he continued to reside until his death.

Retired Clay Man Laid to Rest

Joseph Hall Clay, formerly secretary-treasurer of the Vigo Clay Co., died at his home in Terre Haute, Ind., the night of January 28, at the age of seventy-eight years. Because of ill health, he retired from business some time ago. He was born in Pennsylvania and settled in Terre Haute in 1874. He was a member of the Masonic lodge and is survived by the widow, a daughter, a sister and four grandchildren.

Death Claims D. W. Weaver

David Warren Weaver, a pioneer clay products manufacturer of Brazil, Ind., died recently at his home west of Brazil, after a long illness. The deceased was one of the first settlers of Clay County, having accompanied his father to the county in 1845. In 1873, in company with W. H. Cordrey and his two brothers, he formed the Weaver Clay & Coal Co. He was a member of the Brazil Lodge F. & A. M. He is survived by the widow, one daughter and a son.

Illness Has Fatal Results

Henry A. Maurer, president of Henry Maurer & Sons, Maurer, N. J., well known fire brick manufacturers, died at his residence, 110 West Seventy-fifth Street, New York, on January 25, in his sixty-first year. Death came following a short illness. Mr. Maurer succeeded his father as head of the company in 1904, when Mr. Maurer, Sr., died. He was a self-made man, leaving school in his sixteenth year, thru necessity, and commencing work in a brick plant with his father. The present Maurer plant is a model of its kind, all buildings being fireproof and operations conducted under most approved methods. Mr. Maurer is survived by a wife, son and daughter, as well as two brothers and three married sisters.

New Paving Brick Association Managers

Robert H. McKinley has been appointed manager of the Indiana Paving Brick Manufacturers' Association, with headquarters at Indianapolis.

Millard F. Shryer is now manager of the Illinois Paving Brick Manufacturers' Association, with headquarters in Chicago.

Closes Life Devoted to Clay Industry

John H. Merley, 57 years old, president of the Mapleton Clay Products Co., former manager of the National Fireproofing Co. and one of the best known brick men in the Canton, Ohio, district, died Sunday, January 30, at Mercy Hospital.

Iis father started the first plant in Stark County for the ianufacture of hollow brick.

J. H. Merley was associated in the brick business until 1892, vhen he went into business on his own account, opening the snaburg (Ohio) Brick & Mill Co. The business was sold in 903 to the National Fireproofing Co., of which he became eneral manager. Later he organized the Mapleton Clay roducts Co. for the purpose of occupying a part of his time vith business.

* * *

It is reported that a Mr. Skinner will erect a brick plant at ault Ste. Marie.

Bricklayers Voluntarily Reduce Wages

Bricklayers in Tuscon, Ariz., have voluntarily proposed a eduction in their wages from $11 to $10 per day. The ction was taken because the bricklayers' organization felt hat, in view of the general trend of prices to normal, labor hould be willing to do its part.

* * *

A bed of fire clay covering several acres has been found ear Batesville, Ark.

Brick and Tile Plant at DeWitte, Ark.

It is reported that E. J. Jones will establish a brick and tile plant at DeWitte, Ark. The demand for these products is heavy and it is expected to keep the plant busy on local demand.

Brick and Tile Company Organizes

The California Shale Brick & Tile Co. with a capital stock of $400,000, has been incorporated. Headquarters are to be in San Francisco. Harry W. Lobb, H. M. Anthony and G. A. Fogarty head the board of directors.

May Build Clay Plant at Richmond, California

Clay beds at Richmond, Cal., are being investigated with the idea of locating a hollow tile and other clay products plant there, it is reported. The California Pottery Co., Oakland, Cal., is conducting the investigations.

California Expects Much Building

With more new construction than ever in sight and general business conditions more nearly normal in California than in any other section of the country the brick and clay men and contractors and builders are preparing for a large building program all over the state. Much activity is manifested in new plants and incorporations of shale working and brick making concerns.

California Company Takes New Name

It has been decided by the directors of the Pacific Sewer Pipe Co., Los Angeles, Cal., that the present name is not broad enough to designate the scope of the company's operations and that a new name would be desirable. Accordingly the concern will hereafter be known as the Pacific Clay Products Co. This does not involve any change in management nor ownership.

The Pacific Clay Products Co., has just completed one of the most successful years in its history, despite general unsettled conditions. An effort is being made to establish a market in

LESCHEN Wire Rope

Our greatest asset is the reputation of our product, and it is our policy and our purpose to maintain at all times the high and dependable quality that has built up our business.

Established 1857

A. LESCHEN & SONS ROPE COMPANY
Makers of HERCULES (Red Strand) WIRE ROPE
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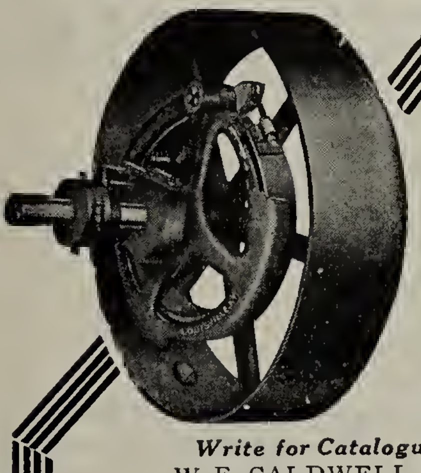

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Caldwell Friction Clutches are giving years of dependable, trustworthy service. Their simplicity, ease and perfection of adjustment, and freedom from breakage assure thorough satisfaction. There are only eleven parts, all designed to have their greatest strength in the direction of greatest stress. Constructed like an automobile brake, a flexible, Raybestos-lined band gripping the entire circumference of the friction ring and transmitting all the power evenly, quickly, surely. Caldwell Clutches combine strength and dependability with unremitting, life-long service.

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Incorporated
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Caldwell FRICTION CLUTCHES

ORIGINAL Boss SYSTEM **Boss Ten-Hour Dryer** ORIGINAL Boss SYSTEM

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

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Why Use Coal For Fuel?

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It is scarce and expensive besides taking longer to burn your ware, and considerable

More Labor—

USE OIL

The Schurs Kiln Burners in your kilns mean—Quick Burns, Better Colors, complete control of fire and

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Malleable Iron Kiln Band and Plate Fasteners

The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

E. C. TECKTONIUS MFG. CO.
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Gilmer Solid Woven BELTING

Efficiency in meeting abnormal conditions of grit, dust, moisture, heat and gas stamps Gilmer Solid Woven Belting as ideal for the brick and clay field.

Wherever Gilmer has been placed in operation it had given unbounded satisfaction—usually with a surprising decrease in operating costs. Stretch and shrinkage practically disappear while wearing quality is remarkable.

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OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
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BARNESVILLE OHIO

Mexico, and with the development of the Los Angeles harbor facilities a good opportunity will be provided to ship into the country.

California Building Steadily Increases

In addition to the large building programs of San Francisco and Sacramento as well as the continuance of the phenomenal amount of new construction which is expected in Los Angeles, other cities and towns in the state are engaged in building on a larger scale than ever before. The city of Long Beach should be mentioned as being now engaged in an especially large building program and a very large amount of brick is being used there and more ordered for delivery soon.

Construction in San Francisco has already taken on a lively aspect and manufacturers are optimistic. Among important plans under way are the construction of the Associated Oil Co.'s $300,000 addition to the Crossley building. Application has been made by the Standard Oil Co. for a 21 story class A office building in San Francisco. The estimated cost is $1,100,000. George W. Kelham is the architect and the Lindgren Co., contractor.

California Had Real Building Boom in 1920

Building operations have been greater during 1920 in most California cities than for several years past. All records have been broken in Sacramento and Los Angeles, according to statistics just issued by public authorities, for permits issued in the past calendar year in those two cities. As is well known, building operations in Los Angeles were second in volume only to New York City during 1920. Prospects for a continuance of this construction on a large scale thruout California are very bright.

A total of 1450 building permits were issued in Sacramento during 1920, representing $3,449,383 in new construction and improvements. The year 1913 previously held the high record for construction in the state capital with $3,416,058 in permits issued.

In San Francisco, permits for 1920 amounted to $26,729,902, which was considerably more than the $18,157,940 worth of building in that city during 1919. Building permits totalling $1,749,330 were issued during December, 1920. That is the most in building permits issued in the month of December there for many years.

Building permits in San Diego for 1920 run far ahead of the amount issued for 1919 and permits amounting to $1,220,463 were issued in December of 1920 there. Permits in Los Angeles show a decline in building operations from the high mark in September, 1920, when permits representing $7,231,440 were issued, to $3,803,838. The permits issued in San Diego during the twelve months of 1920 totalled $5,871,798, while those issued in Los Angeles for the same period represented a total of new construction amounting to $59,920,558.

Improvements planned for Lincoln, Calif., during 1921 include a new city hall and a new grammar school. The Gladding McBean Co., pottery plant there will also soon complete a new building which incloses the kilns. The second floor will be used for drying rooms, thus utilizing the heat from the kilns. Other buildings are also under construction and are to be used for fitting houses.

Starts Up After Brief Shut-Down

Diamond Fire Brick Co., of Canon City, Col., resumed operations to a certain extent after a brief shut-down. The fire brick department has again started producing with the usual number of men. It is hoped that the plant can be kept running continuously.

Connecticut Producers to Promote Brick

The Connecticut Brick Manufacturers' Association is perfecting plans for a promotion campaign to advance the merits of building brick, following in the lead of the fine example set by the Common Brick Manufacturers' Association of America. C. W. King, formerly connected with the Central Connecticut Brick Co., has been appointed permanent secretary of the organization, and offices have been opened in the Goodwin Building, New Haven. A complete data file will be available at these headquarters, showing the many varied uses to which brick may be placed, details in regard to estimating, illustrations of dwellings, apartments and other buildings constructed of this material, and other information of serviceable character regarding building construction. It is proposed to make the campaign one that will stimulate building in the different New England centers to the greatest possible extent.

Florida Brick Maker Gets Large Cuban Order

Hull & Rivas, brick manufacturers of Jacksonville, Fla., have secured an order for a large amount of brick from a sugar manufacturer in Manapola, Cuba. A schooner has been chartered and will carry a cargo of one million brick to this concern on their order. The company has been able to secure this order for the reason that the freight rate on brick to Cuba from Jacksonville is from $3.50 to $4.00 per ton less than from New York and Boston.

Increases Capital Stock

Springfield (Ill.) Clay Products Co., has increased its capitalization from $125,000 to $200,000.

Reduces Wages

Chicago Retort & Fire Brick Co., Ottawa, Ill., has cut the wages at its plant five cents per hour, a report states. The company is the first to reduce wages in the Ottawa district. Reduced demand will necessitate intermittent operation.

Bricklayers Want More Money

Further evidence that the bricklayers of Indiana are not intending to work for the same money as last year is to be seen in the recent demand of bricklayers in Brazil, Ind., for an increase from $1 an hour to $1.25 an hour.

Inquiries Portend Awakening Activity

W. A. Shoemaker, in charge of the Indianapolis office of the Bloomington Brick Co., is optimistic concerning the coming building season. Mr. Shoemaker says more inquiries are coming in than have been received for weeks and is certain some business will result from the volume of inquiries.

Company to Make Art Clay Products

The organization of the American Art Clay Co., of Indianapolis, Ind., has been completed. The company will manufacture art clay products and is capitalized at $10,000. The organizers of the company are Jay Clark, T. O. Philpott, George Cartlidge, H. H. Philpott and E. M. Pilot, all of Indianapolis.

Big Amount of Fires Boosts Brick

Brick and clay manufacturers of Indianapolis are pointing to the amazing residential fire losses during 1920 as one of the big sales arguments for the use of brick and hollow tile for residential construction. A report of the head of the Indianapolis Salvage Corps shows the total residential loss amounting to $345,344, with a total of 2,140

"CAHCO" Complete Oil Burning Systems

Are installed only after a thoro preliminary study of plant conditions and requirements.

The work is then done in accordance with carefully worked out designs and under expert supervision.

The system, complete in every detail from car unloader to combustion chambers, is placed in operation, tested, final adjustments made and turned over to you ready for CONTINUOUS AND EFFICIENT SERVICE.

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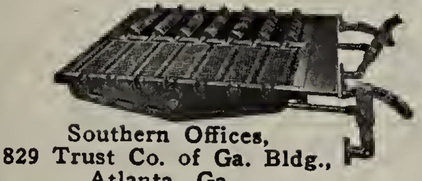

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in clay-burning
save fuel
save labor
improve product
reduce burning time
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THWING INSTRUMENT CO.
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ONE MAN DIGGER
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Designed especially to handle material for the average brick or tile plant.

Dependable, efficient, economical—oil engine operated

LOW IN PRICE—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.

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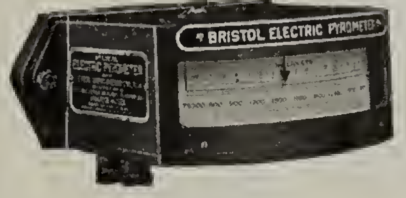

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is the pioneer industrial Pyrometer. They are made to stand up under the stress of daily use. That is the reason Bristol's are well adapted for the Brick Kiln requirements.

See Bulletin AE-291.

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SPEED AND SAFETY

CLAY PRODUCTS MUST BE MOVED FROM ONE PART OF THE PLANT TO ANOTHER WITH SPEED AND SAFETY.

A car to move these products must be constantly in service and must be able to stand abuse without falter. In CONCO CARS you find these two requirements.

Information on request.

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Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?

The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
409-11 Jefferson Avenue E.
DETROIT, MICHIGAN

fires in dwellings during the year. It was pointed out that most of the loss could have been saved had the buildings not been of frame construction.

Terre Haute Company Changes Officers

Announcement has been received in Indianapolis that L. R. Whitney, of Terre Haute, was elected president of the Vigo-American Clay Co., of that city, to succeed the late John L. Crawford. A meeting of the directors was held January 12. Other officers were chosen as follows: Vice president, Richard Dahlen; secretary-treasurer, Harry C. Stickel; general manager, Frank R. Hale. S. M. Cowgill was named a member of the board of directors to fill a vacancy. The company is looking forward to a good business during the coming year.

Addition to Indiana Polytechnic Institute

Interest of Indiana educators, shale, clay, oil, coal and others interested in the natural resources of the state is centered on a bill introduced recently by C. J. Richard, of Terre Haute, Ind., in the general assembly, which calls for the establishment and operation of a school of mines under state supervision in connection with the Rose Polytechnic Institute there. The measure provides for a board of trustees of five members empowered to enter into a contract with the institute for the establishment of the school, the construction of buildings and the arrangement of the courses. The building will cost $1,000,000.

Hopes to Sell Stock on Hand Before Starting

Progress Pressed Brick Co., Louisville, Ky., reports that it has not operated since July, 1920, still has about a half million brick on hand, and does not expect to start again until late February or early March. The company hopes to work out stock of brick now in hand, which was made on higher labor and coal prices.

Kentucky Coal Reaches Low Level

Quoting James T. Howington, of the Coral Ridge Clay Products Co., the present coal market was made for the brick man. However, Mr. Howington is not quite so sure that present low prices will continue very long, figuring that, in event of any sort of industrial demand for coal, prices will advance shortly. Just now many mines are down, and coal is being shipped at very close to production cost, and in some cases probably under, where distress coal is on the market as a result of cancellations, or where the mine has produced and loaded out coal without orders. In some cases screenings are being offered for less money than the freight charge between the mines and Louisville. Good grades of Eastern Kentucky mine run are being offered at prices ranging from $2.50 to $3 a ton at the mine. Some Eastern Kentucky screenings are being offered at prices as low as $1.20 to $1.40 a ton at the mine. The result of the very low prices of screenings has had its effect on all mine run sizes, as many industrial consumers have forsaken mine run for cheap screenings.

Cannot Reduce Brick in Proportion to Lumber

Demand for Louisville, Ky., brick and clay products continues light, but with improving prospects according to some of the builders, brick men, architects, and men who are in position to see what is taking place. Just one week of bright warm weather in mid January brought a flood of inquiries to the office of the general contractors and builders, but a week of bad weather, with snow and ice, caused all interest to wane again.

A popular statement that is heard, especially in the lumber trade, is: "Lumber is down, but building can't hope to show much improvement until the price of brick, hollow tile, cement, lime, and so forth, fall in price, along with builders' hardware, plaster, and labor. At a meeting of the Kentucky Retail Lumber Dealers' Association in Louisville on January 26 and 27, John Frey, of the Frey Planing Mill Co., Louisville, held that the dealers were not cognizant of actual conditions. He showed a table of high and low levels of building materials for the past six years or so.

Mr. Frey said: "Gentlemen, you are talking of brick, cement, labor, and other materials, or costs dropping to lumber levels. Lumber has made a big drop, but it went sky high, due largely to car shortage and bidding up of available supplies. Consider the height to which lumber jumped, and then consider the other materials, and you'll note that they are fairly well in line again. Other building materials never went as high proportionately as lumber, and didn't have as far to come back. Brick has taken a small decline. Brick, cement, and so forth, have been affected by freight increases, and the price of coal used in making them. They are due for some small declines probably as soon as the coal market settles. Labor is not very high as compared with living costs and increases in other commodities. I claim that labor was not getting what it was worth before the war. Look down the list of skilled labor. Carpenters today are getting eighty cents locally. Bricklayers, $1.25; plasterers, $1.12½; plumbers, $1; and in very few instances has the increase been much over 25 per cent. for the war period." Painters today are asking for an increase of from seventy-five cents to $1 an hour, and are on strike.

To Bar Brick from Maine State Roads

All future state and state aid roads in Maine would be constructed only of stone and gravel if an act filed with the state house of representatives by Representative Hinckley of South Portland becomes a law. The bill provides that "all roads and highways constructed from money received in whole or in part from the state shall be of suitable stone foundation with a surface of gravel, except that it shall be permissible to use oil or tar products as a binder." The act would not affect ordinary repair work or contracts awarded previous to its passage.

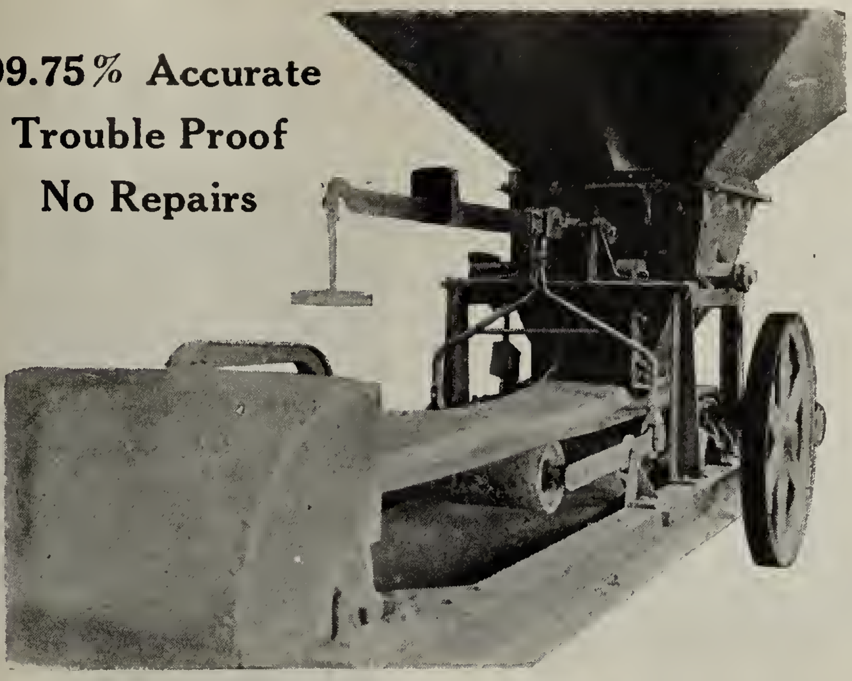
Much Machinery to be Added

Queen City Brick & Tile Co., Inc., of Cumberland, Md., is enlarging its plant in order to properly take care of the demands that are being made for its products. A Freese K-C Mammoth Union machine is being installed, and a large capacity Freese pug mill and cutter. The steam drives are being taken out and electricity substituted, the dryers are being enlarged and arranged for using waste heat. The periodic kilns are being changed to permit more uniform results in burning, and the plant is generally being put in first class condition. A continuous railroad tunnel kiln is also in use at this plant.

This company manufactures a good brand of red shale brick, which finds a ready market in Washington, Baltimore, Philadelphia, and New York. The "Queen Tex Ruffs" are a desirable product, and the enlargements noted are being installed with a view to keeping the trade continuously supplied. A line of patented hollow tile may also be taken on, but no decision has been made on this point as yet.

Norton Company Reduces Wages

The Norton Co., Worcester, Mass., is now operating on a three-day week schedule at its abrasive wheel plant at Greendale. Following a reduction in the price of products produced at the plant from ten to fifteen per cent., a wage cut of ten per cent. has been made, affecting all salaried officials and employes. The reduction does not apply to piece workers at the plant.



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Trouble Proof
No Repairs

ACCURACY

THE SCHAFFER POIDOMETER accurately weighs and proportions all raw materials. It is a constant guard to the quality of your ware, a saver of labor AND it is 99.75% accurate.

We employ a staff of engineers which is at your service and which will cost you nothing to consult in regards to the correct mixing of your clay.

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GASOLINE HAULAGE MOTORS
Particularly Adapted to
CLAY AND COAL HAULS
or Any Light
INDUSTRIAL HAULAGE

Will do the work of a $5000 machine on a light haul at a fraction of the cost. Absolutely the most economical haulage on the market—bar none.

Power—Lots of it. We use new Ford Ton Truck Motors, transmissions, and worm drive differentials, and our special auxiliary transmission, giving a low speed up to 4 miles per hour and high speed up to 15 miles, these speeds being obtained while running forward or reverse.

Types—One piece solid cast iron frame, or for light hauls can furnish sectional oak frame.

Weight—Cast frame motors 3850 lbs. Wood frame 2750 lbs. with additional ballasting capacity of 1000 lbs. Gauge 24 in. to 56 in.

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BROOKVILLE, PA.

Jenkins '96 Packing

original unvulcanized sheet packing

Jenkins '96, a black packing, is compounded to form a sheet of great strength and durability, and is recommended for service where saturated steam is used, under all pressure, high and low—equally good for hot or cold water and other liquids.

Ask your supply man

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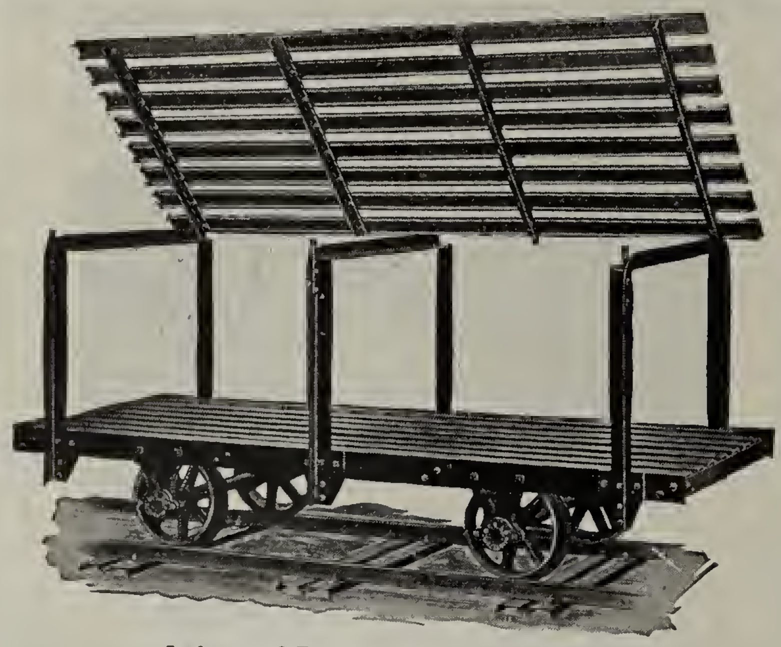

Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

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FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

Brick and Tile Company Organized

The Middlesex Brick & Tile Co., Boston, Mass., has been organized with a capital of $50,000 to manufacture brick and other burned clay building products.

Fire Brick Company Organizes in Boston

Incorporation of the Lee Fire Brick Co., of Boston, Mass., is announced. The concern is capitalized at $50,000. Seth Lee of Newton Highlands, Adelmer H. Ward, Quincy, Mass., and Harry N. Guterman, Dorchester, Mass., are mentioned as incorporators.

Statement Shows Big Assets

The Eastern Clay Goods Co., Boston, Mass., has filed a statement showing total assets of $181,710, represented by real estate to the value of $10,100; products of $72,713; automobile trucks, teams, cash, accounts receivable, and so forth, making up the remainder. The company's surplus at the present time is $85,503.

Brick Company Victim of Thieves

Thieves made a visit recently to the plant of the Bay State Brick Co. at Indian Orchard, a suburb of Springfield, Mass., broke into the office and carried away shovels, wrenches, two or three pairs of rubber boots, a quantity of coal and other things of considerable value. The yard had been closed for several weeks while a new press was being installed and G. O. A. Fuller, president of the company, was unable to say when he made his report to the police, just when the break occurred. The loss was considerable but it was stated that an inventory would be necessary before the exact total was known.

Want Brick Plant on Federal Property

C. S. Bowser and B. C. Duggan have sought Federal permission to build a brick plant on the Fort Keogh reservation, near Billings, Mont. If permission is granted a brick plant of from 15,000 to 20,000 capacity will be constructed. A test of the clay shows it to be admirably adapted to the manufacture of brick.

New Heavy Clay Products Concern

A company known as the Shield Brick Corporation, Perth Amboy, N. J., has been organized with a capital of $125,000. The concern will manufacture brick, tile, and other clay products.

Phillips-Harper Co. Busy

The Phillips-Harper Co., Trenton, N. J., one of the leading manufacturers and dealers in burned clay products in this section, continues to be active, despite the general lull in construction operations in this territory. The company handles clay goods of all kinds, ranging from common and face brick to sewer pipe, drain tile, and so forth. A contract has just been secured for furnishing the hollow tile for the Biltmore Country Club building at Rye, N. Y. Material is also being supplied for a number of important jobs in New York.

Refractory Plant Damaged

The plant of the Basic Refractories Co., Natural Bridge, near Watertown, N. Y., was damaged by fire on January 25, with loss estimated at about $100,000, including equipment. The company specializes in the manufacture of high-grade refractories, including linings for blast furnaces, etc.

Closes Two Plants

Hocking Valley Brick Co., of Columbus, Ohio, which operates four plants in the Hocking Valley, reports two of the plants, both located at Nelsonville, closed down. One plant at Nelsonville, making pavers is operating and the plant at Logan, manufacturing hollow tile is also operating. Repairs at the two plants which are closed are being pushed.

Has Prosperous Year

At a stockholders meeting of the Larue (Ohio) Tile Co. the following officers were elected: A. W. Jones, president; Charles F. Stahl, vice president; M. C. Clements, secretary and treasurer, and Carl Smith, manager. The annual report showed the company had a very prosperous year and made extensive improvements.

Investigate Highway Commission's Actions

A probe of the Ohio Highway Commission is provided in a joint resolution pending in the Ohio General Assembly. In the investigating resolution, which was offered by Senator Hopeley, it was set forth that collusion between the highway commission and contractors has been shown in the award of recent contracts. It was held, also, that many contracts were awarded at figures higher than the engineers' estimates. The resolution will be up for action soon.

Another Plant to Start Operating

W. T. Matthews, sales manager of the Claycraft Brick Co., of Columbus, Ohio, made an inspection of the face brick plant at Groveport, Ohio, early in February, with the idea of putting the plant in operation. The Shawnee plant of the company is in operation and a large production has been reported. The Groveport plant has been idle for some time. It is planned to put it into commission, making necessary repairs for operation some time in March.

Expect Building Revival to be Slow

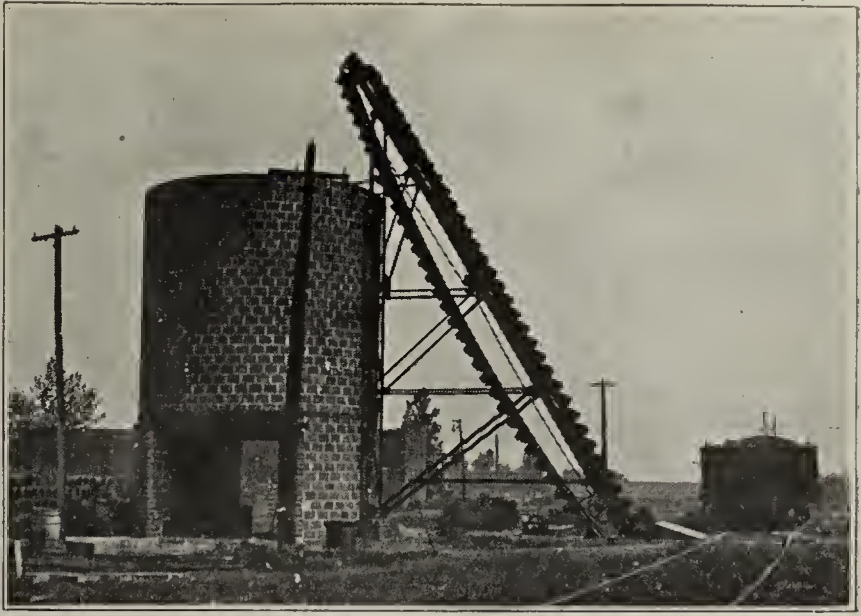
Brick manufacturers, agents and salesmen, of Columbus, Ohio, are becoming more optimistic of the situation every day. Inquiries are coming in better at all of the offices, indicating a better feeling in building circles, which presages a starting of business with the coming of spring. Brick men generally believe that the season will not open with a rush, but may be slow in getting under way. Architects are busy on plans for new construction work and a large part of this is expected to materialize.

Hasten Completion of Repairs

The repairs on the plant of the Hocking Valley Products Co., of Columbus, located at Greendale, Ohio, are being rushed and will probably be completed by April 1, when it is expected to put the plant in operation. John Baker, sales manager for the brick department of the company, believes that the coming season will be a fairly good one, altho he does not expect the demand to open up very early. He is of the opinion that by June and July the season will be in full swing.

To Open New Hollow Tile Plant Soon

The hollow tile plant of the Franklin Brick & Tile Co., of Columbus, Ohio, located at Taylor Station, east of Columbus, is nearing completion and General Manager Dingledine reports that it will be in operation by February 10 at the latest. All of the machinery and materials are now



55 Tons of Lump Coal Unloaded In 50 Minutes

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The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."
THE UNITED STATES ROOFING TILE CO.
5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

Rollin Chemical Corp.
Equitable Building
120 Broadway, New York City

BRICK MUST HOLD UP ITS REPUTATION

THE KILN OF SURE CONTROL
AMERICAN
DRESSLER
TUNNEL KILN

PENNY WISE AND POUND FOOLISH

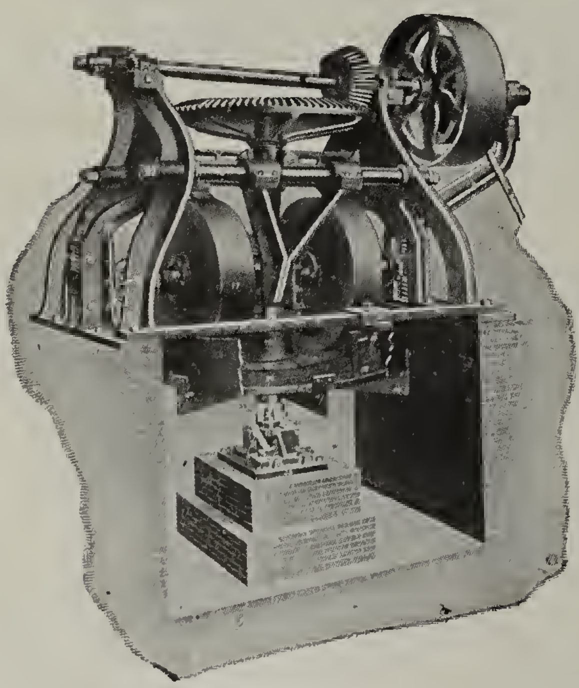
is the man who continues
to pay more to

BURN BAD PRODUCT

than to

BURN GOOD PRODUCT

American Dressler Tunnel Kilns, Inc.
1740 East 12th Street,
Cleveland, Ohio



Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.
All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY
General Offices and Works: WELLSVILLE, O.
Western Sales and Engineering Offices, Monadnock Building
CHICAGO, ILLINOIS

on the ground and the work of installing will be pushed. The plant is one of the most modern of its kind in the Middle West and will have a capacity of 100 tons daily. The face brick plant of the company, which has been closed down temporarily in order to make connections of the steam lines and power machinery, has been placed in operation again and a good output is reported.

Niles Fire Brick Co. Elects Officers

At a meeting of the Niles Fire Brick Co., of Niles, Ohio, held January 19, the following officers were elected:

President, John M. Thomas; vice president and general manager, P. J. Sheehan; vice president and assistant general manager, J. R. T. Clingan; secretary, W. Aubrey Thomas, and treasurer, D. S. Parry.

Mr. John M. Thomas is the president of the Thomas Furnace Co. of Milwaukee, Wis., and a brother of the late president, T. E. Thomas, of Niles, Ohio. P. J. Sheehan has been with the company for over forty years, and is well known in the fire brick industry. The company produces high grade fire brick and silica brick at Niles, Ohio.

Cuts Brick Price Four Dollars

The first break in brick prices in the Canton, Ohio, district came in January. The reduction was general among manufacturers in the district. Paul B. Belden, secretary and general manager of the Belden Brick Co., with works at Waco, Uhrichsville, Somerset and Washington, Ohio, announced this week the second reduction of $2 per thousand on brick prices. This makes a cut of $4 a thousand on brick within the past three weeks. Mr. Belden says it is too early yet to predict the prospects for the coming year, but that from present indications things in the brick industry were encouraging.

He declared that the reduction in price was due to the lowering cost of production and the fact that workmen accepted a cut in wages ranging from ten to fifteen per cent.

Net Profits $114,000

The annual meeting of the Hocking Valley Products Co., of Columbus, which operates a large brick plant at Greendale, Ohio, was held recently and directors and officers were elected. Reports showed that the company had a net profit of $114,000 in 1920. Prospects for the coming year are rather bright. S. L. Chamberlaine of New York is president; Robert H. Taylor, Jr., of Columbus, resident manager, and E. S. Shaffer, secretary-treasurer.

The plant of the company, located at Greendale, Ohio, is now being put into condition for operation about April 1. New floors are being put into the kilns, two large coal conveyors are being installed, and a number of new parts are being erected. The plant will be in excellent condition when completed.

Making Preparations for Drive in Spring

By this time the Hydraulic-Press Brick Co., Cleveland, Ohio, will be ensconced in new offices. Everything but display rooms will be all set for the spring drive, for the slogan is: "Into the Mortar by Easter;" this for the face brick. The new location is on the fourth floor of Stuyvesant Building, 5005 Euclid avenue. It's out of the high rent district, and in the path of the building progress eastward in Cleveland. In the former location the rent profiteers exceeded the speed limit, at least that was the way Manager Arthur S. Fielding looked at it, and when the new score was chalked up he said, like a good many downtown, "Enough!" Work on the new display rooms in the new location will start within a few weeks, and when completed will be one of the finest of its kind in these parts, comprising not less than thirty different kinds of face brick, and perhaps as many as fifty.

Ohio to Spend Millions for Good Roads

William T. Calerdine of Cincinnati was elected president of the Ohio Good Roads Federation at the annual meeting held in Columbus recently. He succeeds Royal R. Scott of Toledo, who held that position for several years. Judge Maurice H. Donahue of Cincinnati, a judge of the U. S. Circuit Court of Appeals, was elected vice president; Senator W. A. Alsdorf of Columbus was re-elected secretary, and T. R. Dahl of Cincinnati re-elected treasurer. A number of new members were elected on the board of trustees.

In his annual report Secretary Alsdorf said that approximately $80,000,000 would be spent in Ohio in 1921 for highway and street improvement. State appropriations for inter-county and main market roads amount to $25,000,000, and the same amount of work is carried over from last year, making $50,000,000 in all. In addition, county and township work will amount to approximately $15,000,000, and municipal work to the same amount.

Building Trades Council Urges 5 Day Week

As the result of a poll now being taken by local building trades unions affiliated with the parent body, the Building Trades Council at Cleveland, Ohio, is being watched keenly by brick and tile manufacturers and distributors, for upon this result it is felt that the progress of the building industry this year depends to a considerable extent. Labor is being asked to vote for or against a five-day week, and on the question of accepting reduction in wages. The latter will come up May 1, when agreements with nearly all building trades unions and the Building Trades Employers' Association expire.

The Council is urging the men to vote for a five-day week, on the ground that it will be better for all to be employed at fewer hours than some to be employed full time and others idle entirely. It is expected 25,000 men will vote on this question.

Meanwhile, the claim is advanced by officials of the Building Trades Council that the proposal of contractors and employers to cut wages may result in labor leaving the city to seek work elsewhere, and leaving the community short of men when they are needed most. In spite of statistics to the contrary, the claim is advanced by Council officials that living costs have not been reduced, and that a cut in wages is sure to bring discontent, and also that a repetition of war time conditions, with labor at a premium, will follow.

Dispute in this connection has been partly settled in the strike of glaziers, who refused to accept any reduction in wages at this time. Employers agreed to retain the present wage scale until May 1, when statistics from the Department of Labor will be used to decide whether a new agreement on wages shall be made. If living costs have been reduced, according to the statistics, wages will be reduced in proportion, it has been agreed.

Will Build Seven Kilns

The Kusa (Okla.) Brick & Tile plant will increase its original nine kiln unit by seven beehive kilns for burning hollow tile and face brick, it is reported. Further additions are contemplated.

Prefer Clay Brick to Concrete Product

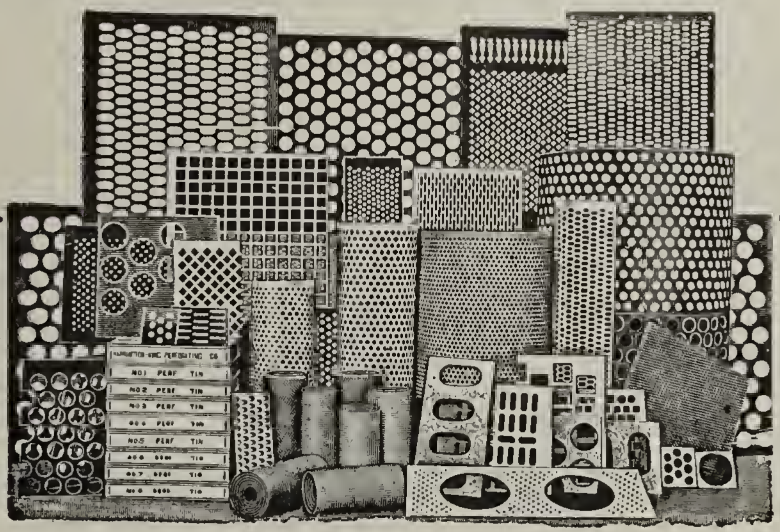
After much influence had been brought to bear in behalf of the use by the county of Multnomah, Oregon, of concrete brick in the construction of the million dollar county hos-

Perforated Steel Screens
Of Every Description

For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.
635 N. Union Ave., Chicago, Ill.
NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition if you treat your clay with

R. H. Precipitated
Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line
of high grade chemicals
for the clay industry

The Roessler & Hasslacher
Chemical Company
709-17 Sixth Ave. New York
Chicago, Ill. Cleveland, O. St. Louis, Mo.
Kansas City, Mo. San Francisco, Calif. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
Cincinnati, O.

Why Do You Blanket Your Auto Radiator in Zero Weather?

The first thing a careful motorist usually does after he stops his engine on a zero night is to blanket the radiator. Unknowingly, he does that for the same reason that the carefully thinking engineer blankets his ceramic kilns with SIL-O-CEL—namely to prevent heat radiation.

Insulation of kilns with SIL-O-CEL prevents the escape of 60% to 70% of the heat which ordinarily goes to waste. It keeps the maximum amount of heat, evenly distributed, at work inside the kilns. SIL-O-CEL prevents the formation of cool spots which causes some pieces to be underburned.

Insulation with SIL-O-CEL has conclusively proven its ability to keep more heat units working out of a certain amount of fuel. It means a more evenly heated Kiln from less fuel. Our booklet Y5A will give detailed data. Send for a copy.

CELITE PRODUCTS COMPANY

NEW YORK, 11 BROADWAY
PHILADELPHIA, LIBERTY BLDG
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CLEVELAND, GUARDIAN BLDG
DETROIT, BOOK BUILDING
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ST. LOUIS, 1532 OLIVE STREET
LOS ANGELES, VAN NUYS BLDG
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SIL-O-CEL
PREVENTS HEAT PENETRATION
TRADE MARK REGISTERED U.S. PATENT OFFICE

HY-GRADE MANGANESE CO.
WOODSTOCK, VA.

Miners and Grinders

Especially Prepared for Brick Making

pital on Marquam Hill, it was decided that clay brick were more reliable than concrete and that the concrete article would not harmonize with other buildings in the vicinity. The controversy is still raging however and a report has been made by Sutton and Whitney, architects, that face brick hauled to the hospital site from Spokane, is not up to standard, and the question of which brick will be used is still undecided.

Plans Building Fifty Homes

Little building is being done at present in Pittsburgh, but architects are busy preparing plans and it is expected a building boom will be started by spring at the latest. A block of brick houses is being erected by the Jewish Welfare Association to relieve the housing situation for the Jewish people of Pittsburgh. It is planned to build fifty of these houses. A plot of ground has been purchased and work on twelve of the houses has been started. The association claims this is not a money-making proposition, but that the houses will be rented to Jewish people at a nominal rental to cover expenses and interest charges.

Building Activity in Pittsburgh Promising

A drop of 10 per cent. in hollow tile prices has been the feature of an otherwise dull week in the brick, clay and affiliated industries market this week in the Pittsburgh, Pa., district. Brick also dropped $2 a thousand from the price of $20 a thousand demanded during the last week. Some dealers continue asking $20, but there are few orders being taken at this price.

Business continues at a low ebb, altho there are many inquiries being made. Plants are resuming operations slowly and there is an optimistic feeling that within a short time conditions will be more favorable.

That building operations will be resumed on a large scale within a short time is intimated by the many inquiries being made by persons who say they are contemplating building. This is especially true in boroughs and suburbs of Pittsburgh proper. In Woodlawn what is termed a small boom is under way there with building operations aggregating many thousands of dollars under construction and others under contract.

Building conditions are expected to improve just as soon as the building contractors and labor unions act upon the request of the unions to cut their own wages in order to lower building costs. If they accede to the contractors' request, it is expected that much building, now held in abeyance, will be started.

⁂

A dissolution of charter was filed by the Summerville (S. C.) Brick Co., it is reported.

Memphis Reduces Brick Prices $2

There will be a reduction of $2 per thousand in the cost of brick, it was announced by brick companies at Memphis, Tenn., last week. The Fischer Lime and Cement Co. was the first to announce the reduction. It expects to cut the price from $18 to $16 for carload lots and to $18 for wagon lots. This reduction of $2 makes the total decline $11 per thousand for brick since the close of the war.

Bricklayers Will Not Ask for Raise

Memphis, Tenn., bricklayers' Union No. 1 has decided not to ask for another raise in the wage scale as was their intention some time ago. This action followed several letters sent out by Secretary E. W. G. Meers, of the Memphis Builders' Exchange who asked the men to reconsider their action in view of the downward trend of prices and wages. Vice-president Bert Childs of the national organization visited Memphis while the matter was under consideration. The present scale is $1.25 per hour.

Tennessee Hopeful for Building Revival

The first month of 1921 practically gone, finds the brick and clay industries in Tennessee having a quiet business period, yet with good prospects for spring and summer. Most of them at Memphis, Nashville and Chattanooga are in commission and keyed up to meet any demands of spring building which, in the face of the very mild winter now on in the South, can be expected to start any time. Architects state that comparatively few buildings have been planned, but the demands for new residences and business houses are so large, it is certain a great number will be built. 1920 building figures at Memphis fell under those of 1919 considerably. Neither Nashville nor Chattanooga had very active building periods last year. The various trade associations in January have been getting these facts before the business and financial public and investors are apt to sit up and take notice.

Apartment houses and flats are badly overcrowded and another factor that looks good, at Memphis is the opening of some new streets in central locations and a considerable amount of municipal activity, all of which promotes other activity. There was a $2 decline on common brick announced in Memphis in January, but materials have been so high that work has been retarded. Labor was scarce but it is not so any more.

In recent months a good many of the brick manufacturing industries around Memphis have installed material improvements and additions at their plants. Several new agencies in the selling line have opened also.

The railroad and traffic situation is better than it was. In the clay pits of West Tennessee a moderate activity prevails. A few small potteries are operating but not on full time.

Reduces Wages of Building Labor

Contractors of Amarillo, Texas, have reached an agreement with bricklayers by which the latter's wages are to be reduced from $12 to $11 a day; hod-carriers and mortar mixers from $7.50 to $6, and laborers from $6.50 a day to $5.

Large Clay Deposits Found in Utah

As the result of extensive investigations conducted in Cedar Valley, Utah, which have revealed an almost inexhaustible supply of good clay, it is quite probable that parties now holding an option on approximately 1,100 acres of this land, will organize and begin operating a clay plant.

Reduces Price of Common Brick

Reductions in the price of brick ranging from fifteen to twenty-five per cent. were announced by John P. Cahoon, president of the Salt Lake Brick Co., Salt Lake City, Utah. The reductions were made in the hope of stimulating building. The new price on common brick will be $12.50, which will give Salt Lake City the cheapest common brick in the country. Inquiries are increasing steadily, indicating the possibility of a building boom of considerable magnitude.

Turning Misfortune to Good Account

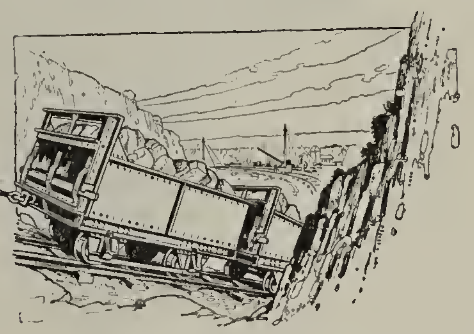
One of the most original and certainly a most forceful piece of advertising was done by the Sheridan (Wyo.) Pressed Brick Co., recently. Plainly labelled signs advising the public to "Build with Brick" were attached to pieces of lumber sticking out from the ruins of a building destroyed by fire. It would be hard to think of any more efficient manner of bringing home to the public this advantage which brick has over inflammable structures.

Easton Cars are Built for Gruelling Service

—their rugged, bull-dog construction outlives the severest wearing, tearing work you can put them on.

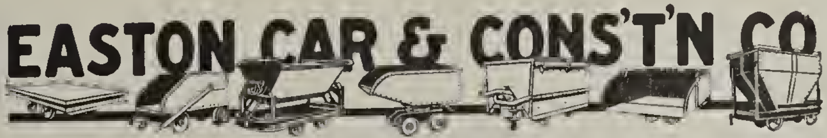
Good, sturdy materials, heavy reinforcement, and expert workmanship—an Easton standard that's bound to give **long service.**

Easton Cars Pay



Easton cars are available in all standard types, and can be built to meet special needs, for every car haulage requirement in the brick and clay field.

Easton Engineers, backed up by our thirty years' experience, understand your brick and clay problems. Their service is free—yours for the asking.



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PEABODY
COAL COMPANY
Founded 1883

WE
MINE AND SELL
GOOD COAL

Chicago
Cincinnati
St. Louis
Kansas City
Omaha
Minneapolis
Peoria
Pineville, Ky.
Deadwood, S. D.
Sheridan, Wyo.
Spokane, Wash.

36 Mines

Annual Capacity Eighteen Million Tons

Prison-Made Products Worry Brick Men

The brick manufacturers of Ontario are much disturbed over prison-made brick being used or specified on certain large buildings.

Cuts Down Force

The report published in several papers that the Milton (Ont.) Pressed Brick Co. has shut down is erroneous. While there has been a slight curtailment of employment customary at this time of the year, the three plants, two at Milton, and one at Streetsville are all operating. "Business as usual" says J. S. McCannell, the president.

⁂

Don Valley Brick Co., Ltd., Toronto, is erecting a large clay storage plant.

Has Confidence in Building Revival

The Don Valley Brick Works, Toronto, Can., will operate at the fullest capacity believing there will be a big demand for brick in the spring. John M. Bowman, general manager, says the outlook is much better than for several years.

"Prices of brick are easier; we are getting better results from our labor, and the cost of fuel is dropping," said Mr. Bowman recently. "We have information that extensive building programs will be proceeded with, and do not intend to be caught without stock to fill orders. Our plant has been going full blast, and it was decided on Monday to continue."

Mr. Bowman said conditions were never more encouraging. He could see no excuse for pessimism, and was disposed to criticise local business men for some of their views.

"Why should people be pessimistic," he asked. "The money is here. Not long ago the Ontario government asked for a loan of $6,000,000 and obtained $15,000,000."

Mr. Bowman reported that the agency of the firm in Montreal had informed him the prospects were also good in that city. He claimed that one-third of the work which architects were promising would be sufficient to keep the brickyards busy for the entire season.

Celebration at Big Mexican Brick Plant

In celebration of the opening for traffic of its Clay Belt Railroad, Compania Ladrillas Unidas, S. A., of Monterey, Mexico, recently banqueted and otherwise entertained its officers, employes and a few distinguished guests. The officers of the company present were President Alfonso Madero, Secretary Jose A. Trevino, Treasurer Lorenzo H. Zambrano, Trustees Gustave L. Trevino and Eugenio Zambrano; Eusebio Villanueva; Gonzales Jimenez Canct; Francisco Cirilo and Alberto Doce.

The party was taken to the Anahuac brick plant of the company at the foot of the Saddle Mountain in automobiles and the plant shown to them while in operation. This plant turns out 40,000 brick a day and its capacity is to be doubled soon.

All the departments were visited, following the clay from the moment it is dumped from the train thru the mill, elevators, screens, mixer, press, conveyors, kilns and finally the loaded cars ready to go to their destination. The plant is driven by steam.

After the party went thru the Anahuac they were taken by a special train along the Clay Belt Railroad, hauled by a powerful gasoline locomotive to another plant, La Union, where tile, stiff mud brick and the like are manufactured, and machinery is being installed to produce sewer pipe and drain tile.

While in La Union plant the board of directors gave all of the workmen overalls, shoes, hats and so forth, as a present.

Large shipments of brick and tile manufactured at this plant are shipped to various parts of Mexico, and even to Havana, Cuba.

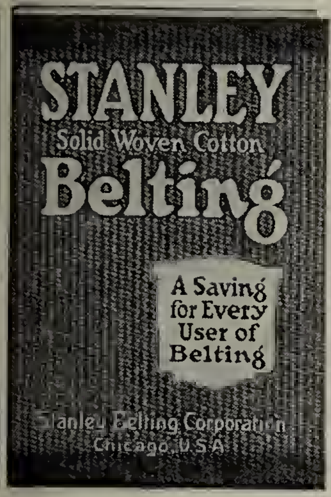
MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

A Saving for Every User of Belting

This is the title of a new and interesting catalog just published by the Stanley Belting Corporation. Aside from the general features of a well worked out descriptive book, it gives valuable instructive points and considerations for every one who uses belting.

In a convincing manner the book covers the "Substitute" idea relative to leather and solid woven cotton belting, and publishes the results of a test proving their claim that Stanley Belting has the best grip on the pulley.


STANLEY
Solid Woven Cotton
Belting
A Saving for Every User of Belting
Stanley Belting Corporation
Chicago, U.S.A.

The manufacturers point to many installations of ordinary and extraordinary requirements in which the average belt user can save money by using their product and very frankly they also list the installations for which Stanley Belting is not recommended. Their reprint of enthusiastic letters from typical users of their products is assured of a close reading in the hands of belting users.

The book will be sent free on request to every user of belting. We advise those interested to send for a copy. Address the Stanley Belting Corporation, 34 S. Clinton St., Chicago and mention this publication.

* * *

"American Gas-O-Motive"

The latest addition to the line of clay plant equipment manufactured by the Hadfield-Penfield Steel Co., Bucyrus, Ohio, is a gasoline locomotive named "American Gas-O-Motive," showing by this action their realization of the need of the industry for a locomotive. For the majority of clay plants this gasoline locomotive is one of the handiest labor-saving devices that can be installed. There isn't a plant that cannot get at least three dollars' worth of use from this locomotive each week, and that is what the investment amounts to.

In hauling clay, dryer cars, coal, and in many other ways the American Gas-O-Motive will prove itself a "handy man around the plant." It is simple in construction, but is built to stand up under the hard service of the clay plant, and the beauty of it is that its power and convenience cost only so long as its motor is running. Whenever it works, it earns. When its job is completed the expense stops.

Printed matter, specifications and price can be obtained from George G. Stein, Gasoline Locomotive Sales Dept., 404 Hippodrome Bldg., Cleveland, Ohio.

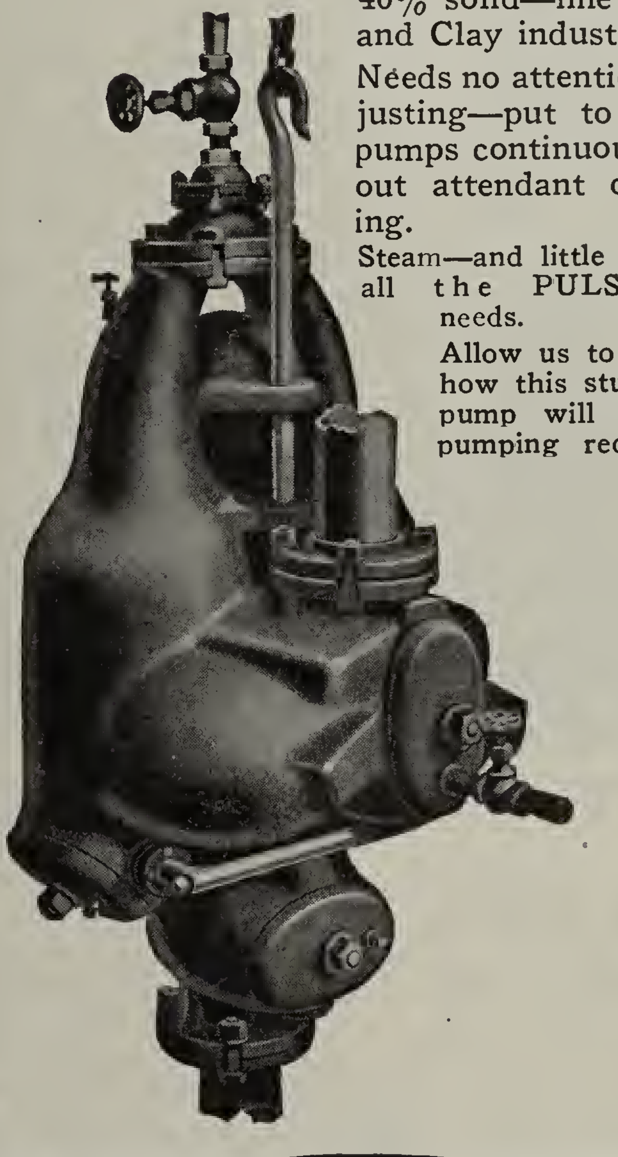
* * *

Annual Sales Conference Dodge Sales & Engineering Company

The annual sales conference of the Dodge Sales & Engineering Company of Mishawaka, Ind., was held at the Mishawaka Hotel in that city January 18th to 21st.

The Dodge Sales & Engineering Company have enjoyed a prosperous year in 1920 and are confident that 1921 will be equally good.

Among the Dodge officials who had charge of various sessions of the sales conference and who spoke were: M. W. Mix, president of the Dodge Sales & Engineering Company, who delivered the address of welcome to the district managers and salesmen; J. A. Benyon, assistant sales manager, on "Getting the Business in 1921"; E. S. Grant, sales manager of District Operations, on "Branch House Operations, Ware-



Alone

There is no other pump in the class of the PULSOMETER — NEEDS NO LUBRICATION, because sliding parts and friction-producing mechanisms are eliminated.

Needs no foundation—it's efficient hung to anything, anywhere.

Handles any fluid up to 40% solid—fine for Brick and Clay industry.

Needs no attention, no adjusting—put to work, it pumps continuously without attendant or watching.

Steam—and little of that—is all the PULSOMETER needs.

Allow us to show you how this sturdy steam pump will "fit" your pumping requirements.

PULSOMETER
STEAM PUMP

PULSOMETER STEAM PUMP CO.

Executive Offices: 224 West 42d Street, New York, N. Y.

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Agencies in the Following Cities:

Waldo Bros. & Bond Co.,
181 Congress St..............BOSTON
Henry H. Meyer Company,
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Queen City Supply Company,
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.... CINCINNATI
Beckwith Machinery Co.,
1500-02 Lakeside Ave.....CLEVELAND
Erwin & Co.,
3734 Cottage Grove Ave....CHICAGO
J. L. Welborn....HATTIESBURG, MISS.
H. A. Paine,
119 Main St........HOUSTON, TEX.
Turner Supply Co.......MOBILE, ALA.
...............HUNTINGTON, W. VA.
Miller Supply Co.,
Harron, Rickard & McCone,
225 S. San Pedro St.,
.... LOS ANGELES, CALIF.
Edelen & Co., 235 Commercial Trust Bldg.
.... PHILADELPHIA
Beckwith Machinery Co.,
108 Parkway N. S..PITTSBURGH, PA.
F. H. Hopkins Company....MONTREAL
Hunter Machinery Co.,
208 Wells St............MILWAUKEE
Wm. H. Ziegler Co.,
423 S. Fifth St.......MINNEAPOLIS
Berow Machinery Co.,
220 West 42nd St..NEW YORK CITY
Harron, Rickard & McCone,
139 Townsend St...SAN FRANCISCO
W. L. Sullivan..........TULSA, OKLA.
Kelly Powell Limited..WINNIPEG, CAN.

COATRITE

Would Have Saved This Door

Door of Waste Heat Dryer Rusting Away to a State of Uselessness. (See editorial article, page 48, January 11, 1921, issue this magazine.)

Just as it Will Save Hundreds of Dollars in YOUR PLANT

COATRITE is impervious to the severest variations of temperature and resists alkali, gas, sulphuric and other acid fumes. Used on metal or wood surfaces, outside or inside, it successfully withstands weather or other conditions. As a coating for pipes, dryers, and dryer cars **COATRITE** is unexcelled. It will not crack, peel or blister.

Ask for a free sample—enough to coat two square yards. A trial will convince you that you cannot afford to be without this all-surface preservative.

SCALINE Improved boiler metal treatment in liquid form. Order a barrel today. Money back if not satisfied.

SEALRITE Plastic kiln crown covering that saves coal. It makes brick settings tight and keeps them so.

KINGSBVRY CORPORATION 1819 KINGSBVRY ST CHICAGO ILL

house Stocks and Store Expense in Relation to Turnover"; K. W. Knorr, on "Engineering Work and Sales Contracts"; W. L. Chandler, assistant treasurer, secretary and president of the National Association of Purchasing Agents on "Selling the Purchasing Agent;" E. H. Ahara, general superintendent on "Production;" D. A. Fuson, credit manager, on "Credits and Collections;" Victor Wilmont, district manager Chicago branch had charge of district managers' session; Kenyon W. Mix, advertising manager, on "Advertising in 1921."

* * *

Take Over Zwermann Kiln

Russell Engineering Company of St. Louis, Mo., builders of high temperature industrial furnaces have recently taken over all rights to the Zwermann Patented Tunnel Kiln.

Under the new arrangement this company will sell the kiln outright for a lump sum price. This price will cover design and construction of the kiln complete and supervision of the initial operation.

Russell Engineering Company's past experience in tunnel kiln work has made them particularly well fitted to handle this proposition as they have designed and built all single and twin kilns of the above design now in operation in this country.

* * *

Joins Sauerman Organization

Wm. R. Elden, for fourteen years associated with the Lidgerwood Manufacturing Co. as engineer and salesman at their Chicago office, has resigned his position to join the organization of Sauerman Bros., 322 S. Dearborn St., Chicago. In his new position, Mr. Elden's experience in designing and specifying hoisting engines will be utilized in preparing specifications for the power equipment furnished to purchasers of Sauerman Dragline Cableway Excavators and Sauerman Bottomless Power Scrapers.

* * *

The Hendrick Manufacturing Company, Carbondale, Pa., manufacturers of perforated metals, screens, etc., announce the opening of a Pittsburgh office at 915-916 Union Bank Building.

* * *

"The ERIE is t
most up-to-date a
complete shovel
the market toda
*H. C. McLe
than, Duffn
Brick Co.,
Mechanicville,
N. Y.*

"OUR ERIE has more than paid for itself in 10 months and is as good as new. We are averaging 360 cu. yards a day in tough blue shale."
J. M. Purcell, Pres., Duffney Brick Co., Mechanicville, N. Y. (They now own 2 ERIES.)

The ERIE gives steady, reliable service digging stiff clay or hard shale. A careful comparison of steam shovels will convince you that the ERIE is the shovel to buy.

Write for our Bulletin "B," showing just what the ERIE can do.

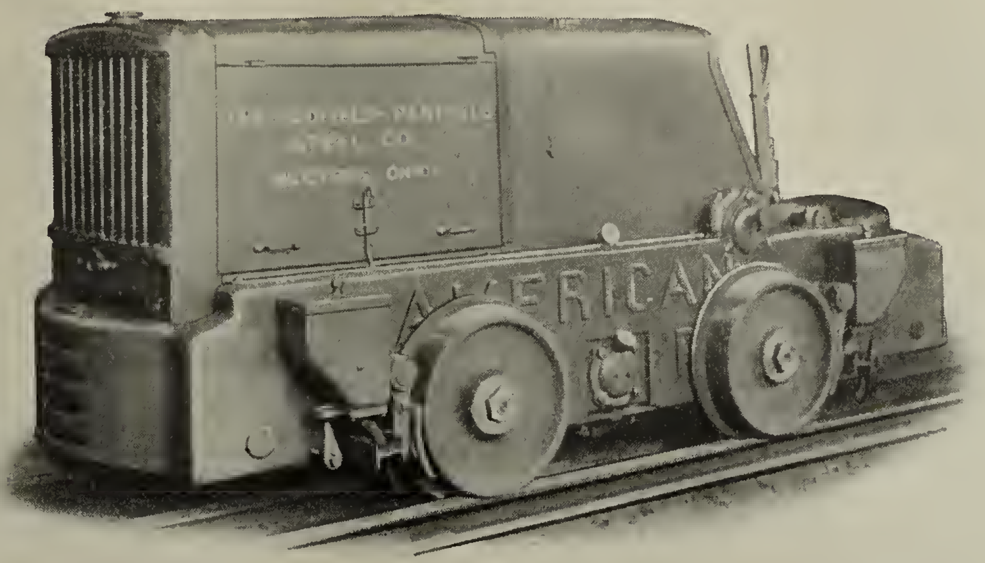
BALL ENGINE CO., Erie, Pa., U. S. A.

Builders of ERIE Revolving Shovels and Locomotive Cranes.
Branch Offices in NEW YORK, BOSTON, CHICAGO.
Representatives throughout the United States.

ERIE Revolving Shovels

BAL
Engine
Erie, Pa

Low Down Type AMERICAN GAS-O-MOTIVE



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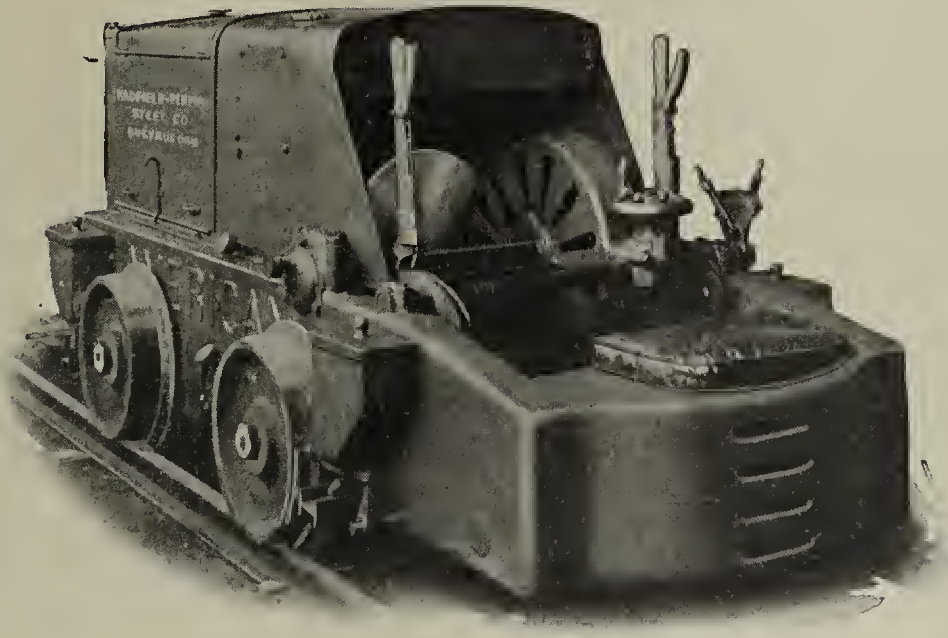

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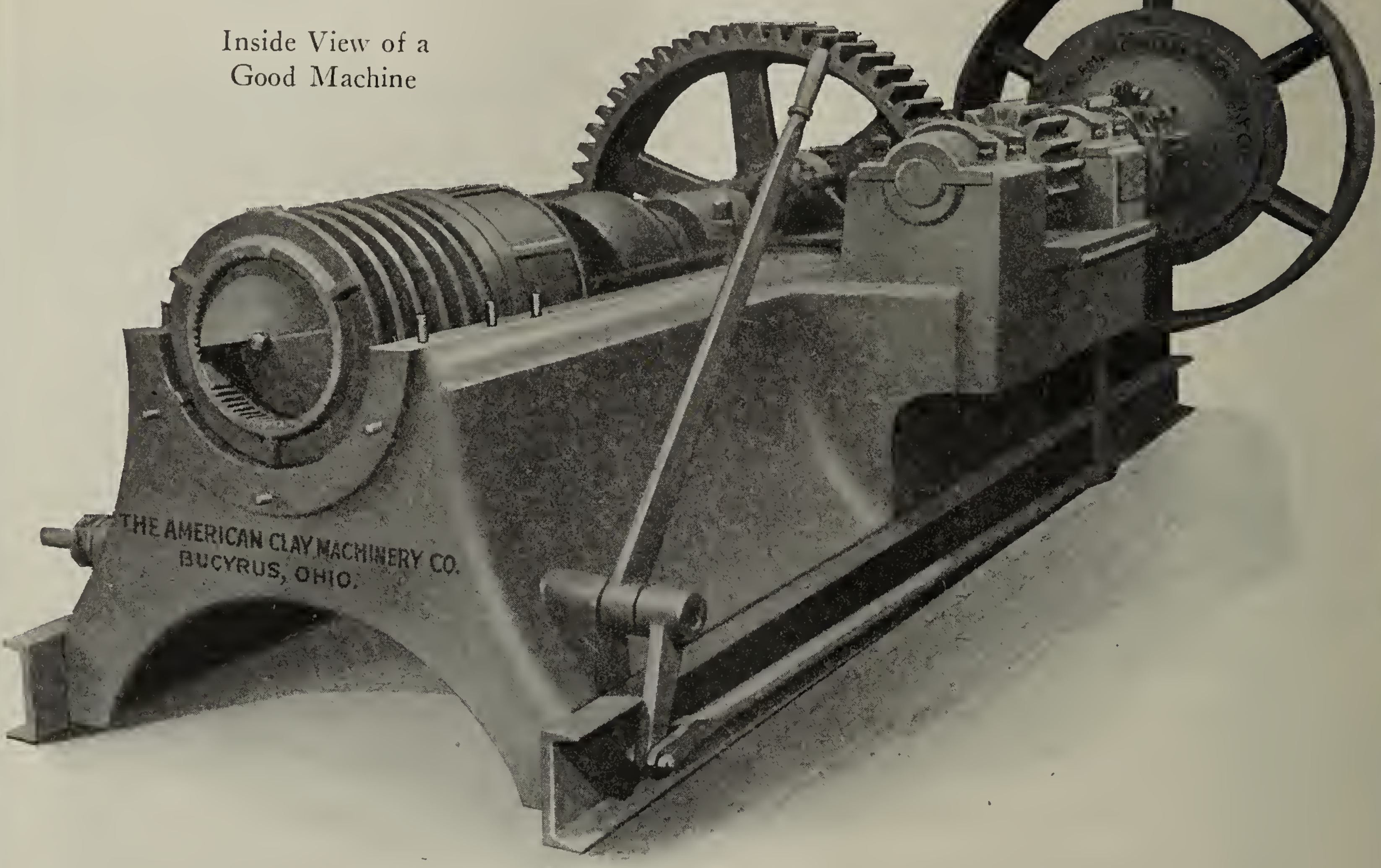
THE HADFIELD-PENFIELD STEEL COMPANY
BUCYRUS, OHIO, U. S. A.
Formerly the American Clay Mchy. Co.

AMERICAN NO. 233 AUGER MACHINE

Inside View of a
Good Machine



American No. 233 Auger Machine

The American No. 233 Auger Machine is, as the illustration shows, a carefully built machine.. It is well designed, built of good material and in a thorough and workmanlike manner. For all uses it is a popular favorite. A description will be sent upon request.

An equally well designed and built machine is the No. 302 Pug Mill. Here is a pair of machines that will serve you well. Get the No. 302 Bulletin describing this pug in detail.

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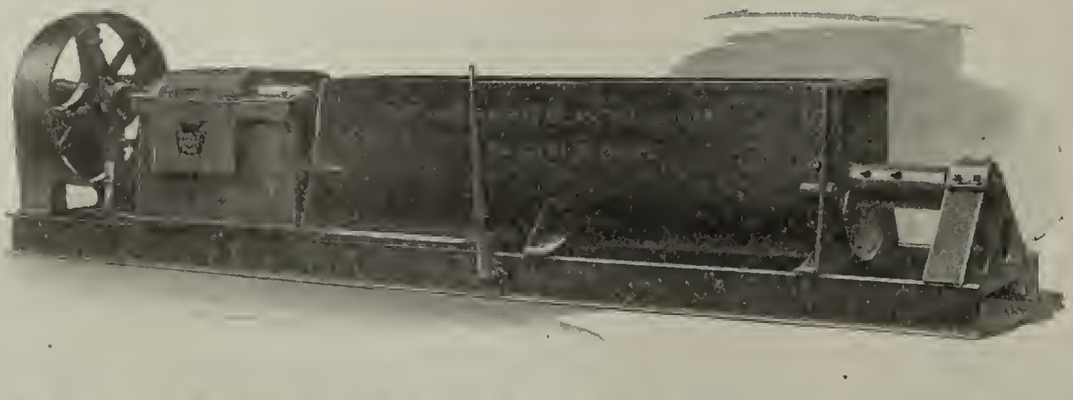

BRICK and CLAY RECORD

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The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

INCREASE YOUR MAN-CAPACITY!

PRODUCERS of materials in competition with clay products have sought every available means at hand to overcome the natural advantages of clay ware. They have used publicity, scientific research and have installed equipment on their plants to reduce production costs. It is the latter item that we wish to dwell on in this discussion.

The only argument that competitive materials have used against burned clay products with any success has been cheapness in first cost. Hence, great stress is being put forth to always seek a way to lower costs. That lower first cost is an argument which seems to be making good is evident by the inroads being made by various materials into a field in which they have heretofore never made much progress.

There is a definite relationship between the prices of an inferior and a superior article where both command a specific degree of popularity. If you increase or decrease the price of one of these commodities, in the meantime holding the other stationary, that article decreases or increases in popularity as the case might be. Hence, to maintain the same standing as previously, the other article must assume a similar increase or decrease in price.

The point is perfectly clear. Something must be done to reduce the cost of clay products in those sections where competitive materials are gaining a stronger foothold. In order for the prices of clay products to be lowered there must be a solution found to the high cost of manufacture. Production costs must be lowered. It is doubtful that this can be accomplished alone in reduced labor and material cost. In fact, we are of the opinion that some method must be found whereby there will be less manual labor required on the brick plant which nearly every manufacturer is ready to believe is at the present time excessive. Equipment that will do work now done by man must be found.

The need for finding and installing machinery that will supplant labor is urgent when considered from another standpoint, other than that maintained above. History tells us some interesting facts about conditions following various wars which bear serious consideration. For instance, assuming the index number for the cost of labor as one hundred before the Civil War, it rose to about one hundred and sixty-five or one hundred and seventy during the conflict. The lowest figure that it reached after that time, up to the present, was one hundred and forty, indicating that labor never got down anywhere near to what it was prior to the struggle. There were of course, a great many reductions in working time. But, seven or eight years after the war, the prices of commodities, foodstuffs, building materials and everything else was down to as low or lower than it was prior to the Civil War.

Now this does not seem consistent or logical. One wonders how a new equilibrium between wages and prices of commodities was brought about with such a great change in the relationship of the index numbers of these items. It was accomplished chiefly by the introduction of labor-saving machinery and better methods of plant operation. In other words, the man-capacity was increased which resulted in lower production costs. Machinery and efficiency methods were introduced to increase the man-capacity.

* * *

IS REGULATION OF COAL INDUSTRY DESIRABLE?

TESTIMONY regarding the coal industry as brought out by the senate's special committee on reconstruction and production, uncovered evidence of trade conditions that were actually outrageous. The people and the government were simply fleeced by irresponsible coal operators. To prevent a recurrence of any such wave of shameful practice on the part of the coal industry, Senator Calder has introduced a bill proposing the regulation of the coal industry by the federal government.

No one suffered any more than did the clay products industries, from the exploitation and extortion practiced by some of the coal operators. Yet it is doubtful that the clay industry favors governmental control that will in effect amount to government operation of the coal business. Industrial paternalism is being looked upon with disfavor The bitter experiences that the clay industry as well as many other trades have passed thru in recent years because of governmental restrictions have impressed these crafts that tho the principle and aim may seem commendable, the practice is destructive to business. Government regulation hampers the growth of the development of industries.

The coal industry is one of the most basic of all industries. Its problems affect everybody directly or indirectly. It is especially closely allied to the clay industry. Hence, anything that is done to regulate it is of public and private interest to readers of this journal. It seems that there should be some other solution to the problem of checking unscrupulous concerns than by the regulation of an entire industry. The problem deserves deep study and legislation should go slow and easy.

* * *

TIME IS RIPE FOR ROAD BUILDING

INTEREST which was manifested in the Good Roads Show which was recently held in Chicago should bring optimism to those interested in road building. It would seem that the coming spring should prove an opportune time for a real start on road building, and evidence points to there being serious consideration given to such a program. Road building should be pushed at this time for many reasons.

The advantages of good roads are in the main too well known to require detailed comment. The closer relations which result between urban and rural districts, decreased costs of rural production due to better transportation facilities, resulting in cheaper foodstuffs for the city dweller, better selling prices for the produce of the farmer, the vast saving in time—all are familiar facts.

The educational advantages, tho equally as important, are not as well known. Good roads knit communities closer together; bring the people into closer contact and promote a better understanding. Schools, made more accessible develop higher intelligence. Wherever roads have been improved, statistics show that educational facilities have broadened and there has been a marked growth in school attendance.

Perhaps the greatest advantage that would come thru extensive road building at this particular time would be the solution of the problems of unemployment. The problem of paying high wages to specialized tradesmen does not exist in the road building phase of the construction industry as it does in warehouse, factory, dwelling erection and so forth.

Materials and wage costs that enter into the construction of roads, have already been deflated, and prices are stabilized. It would seem that the time is ripe for a campaign to be initiated for the building of good roads. Extensive road building would not only be advantageous from the standpoints mentioned above, but it would provide jobs for the men now out of work and keep the wheels of many industries turning.

* * *

A MERITABLE PROPOSAL

WHILE the organization of a clay products research bureau is not completely consummated as yet, the prevailing opinion is that there will be no hitch in the plans. In this issue there is described a proposal that has been initiated whereby the various national associations in the clay industry will form a joint body to carry on technical research with a view of ascertaining methods that will aid in the solution of common problems in the clay products industry. The step that has been taken is one of utmost importance to the industry and its effect will be more far-reaching than many are prone to believe.

While there will be many manufacturers who will be unable to see the light of the new plan, by far the great majority of plant operators will be in hearty accord with the scheme to put the industry on a scientific basis. "Know thyself" is certainly applicable to the manufacturer of clay products. It is high time that we are attempting to learn some fundamentals concerning the products we manufacture.

There are shameful wastes in clay products manufacture. The industry's drain on the coal resources of our country are much greater than they should be. The clay manufacturer owes it to the public if not to himself to find methods that will lower the coal consumption.

The clay associations deserve commendation for the good work that they have done in initiating this movement. In fact, this is simply another indication of the value of associations. Each association should enlist its wholehearted support to the plan advanced for the organization of a clay products research bureau and those manufacturers who have not yet joined the association in their respective branch of the industry, should consider doing so at once and take their part in the work being done and contemplated by these organizations. A patriotic motive, if none other, should enlist the manufacturers' support.

* * *

ARTIFICIAL WAGES HAMPER RAILROADS

URGENT financial necessities of the railroads require an immediate relief in either the operating expenses or income. Higher freight rates are unacceptable. With declining prices and wages in industry and agriculture, the country demands that the solution of the railroad problem be found in a reduction in operating expenses and not by any further advance of railroad tariffs.

The railroads point out that by simply restoring conditions and the efficient and economical operation, the financial stringencies that the railroads are now facing can be averted. It is claimed that a reduction in wages of unskilled labor to prevailing rates in other industries, and a change in working conditions as regards to basis of wage payments under the national agreement, would save a sum that would be very significant.

The carriers cite hundreds of cases of gross inefficiency from former production standards thru changes in working arrangements brought about by the governmental control. Artificial wage scales cause undue extravagance in railway wage budgets. Railroad labor may find itself in a similar plight as men working in the building trades—high wages but no jobs. The railroads simply cannot operate under these conditions. This makes the situation a serious one since the railroads constitute a vital part of those factors that affect our daily life.

The railroads claim that a change in working conditions is urgent and must be done immediately or a situation will develop that will be serious. Conversely, the leaders of labor organizations give ultimata that an abrogation of the national agreement or wage cuts will result in a strike without ceremony. The railway labor board has rejected the request of the railroad executives for immediate abrogation of the national working agreements with railroad organizations, it feeling constrained to give both sides to the pending disputes, full opportunity to present their facts and their arguments in their own respective ways.

Events of the past few years in which railroad brotherhoods have been allowed to take what they have desired, have created strong sentiment against them which it will take much to counteract. Furthermore, if people generally believe provisions of the national agreement cause waste and put a premium on idleness they will refuse to entertain any plan whereby freight charges would be increased at a rate computed sufficiently high to cover the needless expense. Hence, readjustment in the railroad problems must take place in operating expenses.

* * *

CORRECT, BUT DO NOT ADVERTISE THE BRICKLAYERS' SHORTCOMINGS

THE BRICKLAYER is fast regaining the standard of efficiency maintained by his craft before the war. This is the gospel which the manufacturer must preach to help restore confidence in the builders. There is, however, still room for improvement. J. McKenna, president, bricklayers' union local No. 1, Philadelphia, in endeavoring to furnish an excuse for some of the bricklayer's shortcomings, mentions that the bricklayer is not given every chance to be efficient. Mortar, as a rule, he says is "made by a twenty cent mortar man" with the result that the mortar is of poor quality and very hard to work with. It is a fact that reputable contractors pay from five to fifteen cents over the scale of common labor for this class of work. It is doubtful whether any efficient contractor would have a man, ignorant of the work, at the mortar box.

Mr. McKenna graphically depicts the hardships of the bricklayer working in the cold wind, rain and snow and sent home only because the work might be spoiled, with no consideration of the man himself. Experience in the construction field will show that only in rare instances will a bricklayer work under those conditions.

The earnings of a bricklayer, Mr. McKenna goes on to say, are not attractive enough to lure many new men into the trade. He cites the case of a bricklayer who, in the last thirty-three years has earned on an average of less than $1,000 a year, whereas now it is possible to earn that sum in other work at the age of sixteen.

Mr. McKenna fails to take cognizance of the fact that standards of wages thirty-three years ago were considerably lower than now.

The foregoing remarks are not made with a view to criticizing Mr. McKenna's talk, but to show the brick manufacturer that, altho before the public he should stand behind the bricklayer, in private, he should recognize the faults of the trade and endeavor to correct them.

CLAY PRODUCTS RESEARCH PRACTICALLY ASSURED

Well-Known Clay Products Men, Representing the Various Associations in the Industry Meet at Chicago and Propose Research Bureau—A. V. Bleininger to Take Charge of the Work—Entire Industry to Cooperate

AFTER MANY YEARS of discussion and consideration, but with no definite action ever taken, a plan has finally been put into realization for technical research of problems of direct interest to the clay products manufacturer. At a meeting held in Chicago on February 15, there were present men well known in the industry, including: Frank Lambert, W. F. Schlake, Illinois Brick Co.; Paul B. Belden, Belden Brick Co.; Eben Rodgers, Alton Brick Co.; B. F. Webber, National Brick Co.; O. W. Renkert, Metropolitan Paving Brick Co.; F. L. Manning, Portsmouth Paving Brick Co.; Chas. Reed, Chicago Retort Fire Brick Co.; Porter Kier, Kier Fire Brick Co.; William Koch, Twin City Brick Co.; T. J. Neiswanger, Oskaloosa, Iowa, and J. J. Amos, Humboldt, Kan. These men were representing the Hollow Building Tile Association, American Face Brick Association, Common Brick Manufacturers' Association of America, National Paving Brick Manufacturers' Association and the Refractories Manufacturers' Association.

Besides these men there were present the secretaries of the above organizations, and A. V. Bleininger, formerly with the United States Bureau of Standards; R. T. Stull, of the United States Bureau of Mines; Dr. Moore, United States Bureau of Mines; P. H. Bates, United States Bureau of Standards, and Dr. E. W. Washburn, head of the department of ceramic engineering, University of Illinois.

NATIONAL ASSOCIATIONS FIRST PROMOTED IDEA

The credit belongs to the various national clay associations for initiating a joint research plan which has long been needed and desired by the industry. It is perhaps due to the special efforts of Secretaries Sturtevant, Hollowell, Greenough and Stoddard, of the Hollow Building Tile Association, American Face Brick Association, National Paving Brick Manufacturers' Association and Common Brick Manufacturers' Association of America, respectively, that the scheme was put across at this particular time.

At the above meeting at which Paul B. Belden acted as temporary chairman, and M. L. Greenough as temporary secretary, E. R. Sturtevant outlined the purpose of the meeting and called upon Mr. Bleininger to give his views of the plan. Mr. Bleininger first outlined what could be done and the desirability of carrying on the work, and then asked an expression from those present as to whether they thought the plan of joint research advisable and worth while and if so, how it could be accomplished. The various clay manufacturers present heartily endorsed the plan and enthusiastically approved the method for carrying on the work.

RESEARCH WORK NOW DONE BY INDIVIDUAL PLANTS

Thruout the breadth of the land there have been and are now being undertaken, experiments that aim to improve the quality of clay ware, by those manufacturers who are of that progressive type and always ready to believe that there is still plenty of room for improvement in the methods used in clay manufacture. Much of this research is identical at various plants and a duplication of efforts occurs. This is not only costly and wasteful of time and energy, but it is not doing the industry as a whole any good. Whatever is being learned is kept right on the plant where the facts are unearthed.

With the organization of a clay products research bureau, the duplication of investigation work can be eliminated and thru the support of the entire industry the cost per manufacturer will be trivial. The clay products research bureau is to be composed of a technical committee formed by manufacturers of various industries who will represent all the branches of the clay industry and cooperate in the direction of the work, and a scientific investigation committee composed of Dr. Bleininger, chairman, and such technical men as he might choose. This committee will direct the research to be undertaken.

FEDERAL BUREAUS PROMISE AID

The various federal bureaus have signified their willingness to cooperate and the equipment and laboratories of those bureaus and of state universities are made available for research work in clay products. The funds for carrying on this investigation will be appropriated by the associations that are represented in the clay products research bureau. It is planned to conduct this work for a period of two years, at the end of which time it will be decided as to the future of the bureau. The plan of organization and the financing of same will be submitted to the various associations for their official cooperation.

The industry is extremely fortunate in having so capable a man as A. V. Bleininger take charge of this important work. Mr. Bleininger is without doubt the leading figure in the scientific ceramic field. He, perhaps more than any other technical man, enjoys the whole-hearted faith and enthusiastic support of every clay manufacturer. Altho his time is taken up by many other duties, this new plan is a realization of a dream that Mr. Bleininger has long cherished and his interest in the work will be zealous.

The investigations to be conducted will be fundamental. It is the aim to study only those problems that are common to all clay industries. It is felt that there is plenty of work to be done in this field. It is recognized that each plant has a clay of individual, chemical and physical properties and results obtained from one clay may not apply to another, but this is aside the point. The purpose of the clay products research bureau is to find methods and systems for ascertaining facts and to learn certain fundamentals which can be correlated and interpreted by the individual plant owner and used to determine the characteristics of his own clay.

RESULTS PROVEN WORTH WHILE

Scientific research is not altogether new in the clay industry. The Refractories Manufacturers' Association has for several years maintained fellowships at the Mellon Institute, Pittsburgh, for carrying on investigations pertinent to fire brick manufacture. The results obtained from this research bureau have been so valuable that appropriations for the fellowship have increased each year and many members of the association have declared that of all the various activities of the organization, the research work was most valuable. In fact, one large manufacturer of fire brick has said that were the association to abandon all of its activities except its research bureau, the Refractories Manufacturers' Association would be still worth holding a membership in.

The experience of those associations affiliating with the clay products research bureau will undoubtedly be that of the Refractories Manufacturers' Association, and every manufacturer is urged to cooperate to his fullest extent in the support of this work.

* * *

Vast Amount to be Spent on Roads

It was announced from Chicago that a $1,000,000 program of highway improvement was urged in a resolution before the American Road Builders' Congress, February 11. Immediate action on the program, it was declared would give employment to 3,500,000 idle men.

* * *

Brick Gets Boost From Outside Source

Face brick is at present getting some excellent and unsolicited advertising in a booklet put out by Mortar Color Manufacturers for the purpose of advertising their product. The booklet contains color plates of splendid examples of brickwork showing the possibilities of beauty in the proper blending of mortar colors with the various shades of brick.

Four brick panels, claimed to be photographic reproductions of actual brickwork, are shown, each with a different colored mortar. The effects are in some respects rather surprising. In all four panels the brick are the same, made by the same manufacturer and even taken from the same kiln. The effect in appearance, however, is vastly different with the different color mortars used. Chocolate, buff, black and red mortars are used, the brick is laid in Flemish bond with raked joint. These examples show that if the wrong color mortar is used in brickwork the natural beauty of this burned clay product may be greatly detracted from if not entirely destroyed.

The mortar color manufacturers behind this advertising are the Chattanooga (Tenn.) Paint Co.; Clinton (N. Y.) Metallic Paint Co.; Wm. Connors Paint Mfg. Co., Troy, N. Y.; Jamestown (Pa.) Paint & Varnish Co.; Lookout Paint Mfg. Co., Chattanooga, Tenn.; George S. Mepham & Co., St. Louis, Mo.; Ricketson Mineral Paint Works, Milwaukee, Wis.; Roll Manufacturing Co., Cleveland, Ohio; James M. Wells Co., Ogdensburg, N. Y.; C. K. Williams & Co., Easton, Pa.

* * *

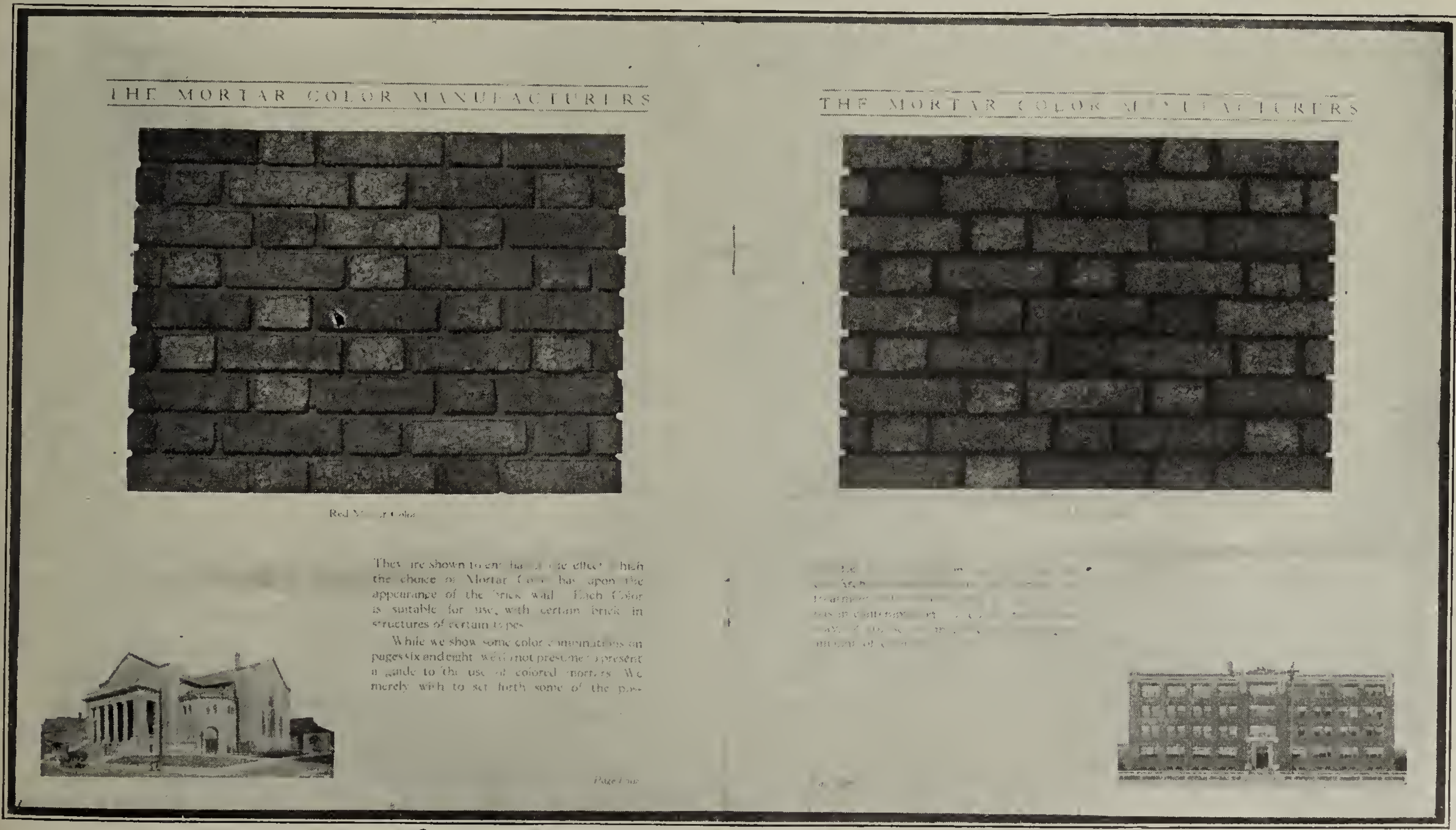
Workers' Cooperative Home Building Plan

O. A. Mather, of Chicago, Ill., has formulated a plan, which he believes is feasible and will aid to relieve, to some extent, the need for homes. According to his figures there are at present about 35,000 building trades workers, out of a total of 50,000, idle. His plan calls for these men to form cooperative groups and to build houses for each other. This would greatly decrease the cost of the home as it would eliminate all labor cost, labor being furnished by those workers in the cooperative groups. Each member of the group, if now out of work, would simply be employing time for his own benefit, during which he otherwise would be idle.

Materials would be purchased by the worker wherever he could obtain them cheapest, and he could buy whatever material he desired to build his home of.

The Chicago Trust Co. has announced that it stands ready to lend the sum of $5,000,000 to groups of cooperative workers who want to build homes by their own labor. This sum is estimated to be sufficient for 2,000 homes, and the question is now up to the workers whether they wish to build homes for themselves by this cooperative method. Loans will be from $2,000 to $5,000, up to fifty per cent. of the actual value, and loans may be made to run for fifteen years.

Further developments of the Mather plan will be watched


THE MORTAR COLOR MANUFACTURERS
THE MORTAR COLOR MANUFACTURERS

In the Picture Both Panels of Brickwork Are Rough Textured, Mingled Shades. The Left-Hand Panel Is Built with Red Mortar, the One on the Right with Black Mortar. The Red Mortar Masks the Beauty of the Brick.

with interest and if the cooperation of workers to this extent proves practicable, a great step forward in the solution of the housing problem will have been made.

Many Flock to Good Roads Show

February 12, 1921, ended the exhibition of the American Good Roads Congress, held at the Coliseum, of Chicago, Ill. All types of machinery and materials were exhibited and an amount of interest displayed generally that indicates an awakening of public sentiment in favor of good roads construction.

Frank B. Dunn, inventor of the wire-cut-lug cutting machine was on the job with an exhibit of his paving brick. By showing brick without the lug and brick with the lug, Mr. Dunn endeavored to show the advantages of his product.

In conjunction with the good roads show the Lincoln Highway Association obtained the opinion of highway engineers on building an "Ideal Section" of road on the Lincoln Highway. These men were practically unanimous in stating that an ideal road must be drained with submerged drain tile and catch basins, indicating that the open ditch will ultimately be eliminated from all important routes of travel.

Building Costs Drop Twenty Per Cent.

An announcement from New York states that a 20 per cent. drop in the cost of building construction there in the last six months was indicated February 3 in the bids of thirteen contractors for subway repair work.

TREND *of* BUILDING *in* GOTHAM *is* TOWARD HOUSING PROJECTS—PRICES MORE STEADY

HABITATION BUILDING construction is becoming dominant in the budding spring market according to the flow of building materials and new work coming onto architects' boards, says the Dow Service daily building report of February 14, 1921.

The late business depression and industrial reaction, the inactivity of railroads as prospective spring purchasers replenishment material and the postponement of large commercial building enterprises pending the absorption of business space that will be thrown upon the market this spring and next autumn, are factors forcing building material manufacturers and distributors to a revision of production and sales schedules at this time.

Briefly, the difference is that in other pre-spring inventory periods, the trend has been toward big-order business. Building material interests are this year concentrating upon comparatively small-order trade, but in large volume, as far as the first half of the year is concerned.

HABITATION BUILDING PREDOMINANT

In urban districts this trend is symbolized by a noticeable drift toward habitation building construction, such as hotels, apartment houses, tenements, store and dwelling enterprises, and the several year deferred institutional buildings, such as hospitals, Young Men and Women's Christian Association buildings, nurseries, clubs, etc., or such structures as can be financed by Liberty Bonds and other securities without recourse to financial channels heretofore depended upon to launch the spring building movements.

In the suburban districts this tendency is taking the form of a concentrated catering to the individual home builder, both on price and on delivery schedules. To facilitate the latter dealers are coming into the market for yard stocks while the mills are still solicitous for prompt delivery orders. Nearly all interests, therefore, have been making prices attractive, until today the first dependable sign of shrinkage limits are discerned in a widening margin between the price of low-grade and high-grade building materials.

COMMON BRICK PRICES HOLD FIRM

Quartered oak flooring has stopped its downward course and has turned upward. It is today being quoted at $250 to $285 whereas the low level was $225 to $275 a thousand feet, delivered, New York. Hudson common brick at $16 to $18, wholesale, with the usual additional charge for handling, haulage and 15 per cent. for delivery, is firmer at these prices than it has been at any time this year with more brick moving out to actual job for immediate consumption than has been reported in many months. Present price stability can easily be upset if the growing demand continues to threaten reserves here prior to the reopening of Hudson River navigation to sources of supply at Haverstraw, Newburgh and Kingston districts.

The highest peak of brick sales for the winter was reported two weeks ago when fifteen barges, containing 400,000 brick each, were sold, from Monday to Saturday. Last week thirteen barge loads had been sold for immediate delivery to job, up to Friday morning with Saturday a holiday. There were twenty barge loads left in the wholesale market with source of supply cut off by ice in the river. The largest proportion of this brick movement has been to Manhattan, for the completion of commercial structures in the hope of offering these buildings in the May renting season. Movement was therefore heaviest at Pier 5, Harlem River and Fifty-second Street discharging docks. Last week Brooklyn and the Bronx began to figure in brick deliveries, denoting the development of the habitation building trend.

PRICES SLOWING UP IN DOWNWARD RUSH

General price movements still head downward, but with reduced speed. In plaster, for example, $2 is taken off on neat wall cement, lath mortar, brown mortar and finishing plaster in jute bags, but the rebate for empty bags has been changed from 25 cents to 15 cents.

Under the former price of $28 per ton for finishing plaster, the 25 cent bag rebate, counting twenty bags to the ton, represented a net investment to the purchaser of $23 per ton for the commodity. Under the new rebate of 15 cents per bag (twenty bags to a ton) the net price to the consumer is still $23 a ton, altho the new list price is $26 per ton. The benefit of the price reduction accrues to the purchaser only when he returns his bags in good condition. The high cost of jute has been one of the causes of price advances in this commodity in the past and this plan has been worked out to insure return of the empty sacks.

WHAT BUILDING INDUSTRY NEEDS MOST TODAY

Miss Estelle T. Weeks Tells Common Brick Manufacturers' Association of Vital Place Brick Has Always Occupied in the History of Men—Recounts Construction Achievements in Past and Present—Outlines Need of Practical Ideals

By Estelle T. Weeks

Head of Department of Research and Statistics of Hoggson Brothers, New York City

I STAND BEFORE YOU in the not at all enviable position of daring to ask brick men assembled here for the purpose of talking brick, to turn their thoughts aside for a few moments to a consideration of that industry, without which brick could not exist.

I refer to the construction industry and I want to take you clear back to the beginning of construction so that when, later, I speak of the present needs of the industry you will see those needs in the light of history.

WHAT CONSTRUCTION MEANS

Construction is not merely building houses, factories and office buildings, but irrigation and reclamation projects, mines and power stations, mills and granaries, highways and bridges, railroads and rolling stock, ships and docks, telegraph, telephone and cable systems and the sanitation of cities.

Twentieth century developments, you say? Construction is as old as the human race, older, for the beaver builds his dam, the mole his subways, the spider his trap doors. The story of construction is the story of civilization. No more ancient record of civilized man exists than was recently uncovered in Turkistan on the sites of the prehistoric cities of Anau and North Kurgan. Here thousands of years ago, cities rose and fell and other cities were built upon their ruins.

BRICK USED 12,000 YEARS AGO

On the site of North Kurgân nearly 12,000 years ago men lived in houses of sun-dried brick*. Thru all the ages we find clay in use, molded in nature's own lines, like the cracking bed of the Nile or our own Connecticut River at ebb tide, pressed and bound with that "straw" which proved the cause of the first "strike" known to history,** dried or burned in multiple units convenient to the mason's hand.

Brick vastly influenced the so-called "styles" of architecture, often because it was the compulsory medium of expression and utility. Yet brick was extensively used even by the Greeks and Romans who excelled in the arts of building with stone. Nor has it lost its universality of use even in countries where wood is plentiful and its use highly developed. Brick bears the record of business as well as of construction, for tablets of clay have been found which tell of income taxes in Babylon, 3,800 years before Christ. In writing the history of clay and brick making one would write the history of housing, of manufacturers, of transportation, of science and indeed of social development.

MEETING LABOR PROBLEMS 5,000 YEARS AGO

Five thousand years ago Egyptian rulers were struggling with a problem of unemployed labor not unlike that which England's statesmen are confronting today and which we may be compelled to face in the near future. Egyptian rulers arrived at the solution of using their idle man power on government works, canals, reservoirs, temples and pyramids. The great pyramid of Cheops, of the Seventeenth

Another Example of the Supremacy of Burned Clay in Construction. The Brick Shown Above Are in Use Thousands of Years and Apparently as Good as Ever.

This paper was read before the joint convention of the Common Brick Manufacturers' Association and the National Brick Manufacturers' Association, Hotel Pennsylvania, New York, February 1, 1921.

*"Explorations in Turkistan, 1904 Expedition," by Raphael Pumpelly, Carnegie Institute, Vol. 1, No. 73, p. 38.

**The Israelites' return to the Promised Land.

Dynasty, covered thirteen acres and it took, Herodotus tells us, the continuous labor of 100,000 men during thirty years to build it. The record of the use of brick in the pyramids is a long and fascinating story.

Walled cities were common in those ancient lands and famous centers of trade were thus "stolen from the desert" by construction's powerful hand. Irrigation, the purification of water supply, the grouping of structures in streets of trade, and an increasing attention to the building of homes of wealth and places of worship, barter, and congregation called for a remarkable development of the construction industry. And brick was the ever-present aid or foundation in all these kinds of construction.

A Section of the Great Wall of China. It Is About 1,500 Miles Long and Represents the Greatest Single Construction Feat Ever Built of Burned Clay.

ROMANS DID CONSIDERABLE ROAD BUILDING

Rome added road building to the other architectural developments which that nation had in common with Greece. These roads knitted together the Roman Empire—the largest the world had ever known up to that date. Warlike in spirit, ever on the road for conquest, retrieving prisoners both to labor and to teach their native arts to Romans, the Roman people had to develop their roads. Agrippa's famous road map (made in the First Century, A. D.) shows the location of 52,950 Roman miles of road extending from Britain in the Northwest, via Rome, to Jerusalem in the far Southeast of the Empire.

In the ancient days the City of Rome knew many associations of smiths, carpenters and weavers who grew to great power. These associations grew and changed in character from year to year; they are the real progenitors of the labor unions of today. The builders of Rome have left many records of their remarkable achievements in construction, as for instance, their aqueducts, viaducts, open-air theaters, circuses, the Coliseum and the Cloaca Maxima (the great sewer).

GREAT HARBORS BUILT IN ANCIENT TIMES

Greece and Carthage gave to the world harbors of great renown. The world's most famous light house was the Colossus of Rhodes, long considered one of the seven wonders of the world. None of these harbors, any more than the harbors of modern cities, could completely serve their use until excavation and dock building supplemented the natural harbor.

So while the tide of building spread northward by degrees, following the ancient channels of the Roman roads, new cities rose in Italy, cities of commerce on a scale hitherto unknown. The merchant ships of Venice came to number 3,000 in the Fourteenth Century. These met ships from northern Europe with timber, textiles, tin and furs. New crafts arose in the Italian cities and from them sprang the famous guilds, also progenitors of today's unions. The Florentine guilds were of two kinds; the "greater guilds," including those of lawyers, bankers, salesmen, physicians, merchants and manufacturers, and the "lesser guilds" of smiths, carpenters, masons, shoe makers and butchers.

FINANCIERS PUT MONEY INTO CONSTRUCTION

The bankers of these ancient cities are responsible for much of the development of construction in their day. Their palaces and public buildings, their ships and caravans from distant lands called for all the best work of the artisans of their day. Their dealings in trade and finance yielded funds that went almost exclusively into construction and its attendant trades.

To them we owe much in art, architecture, painting and design, much, too, in encouragement of growing scientific experimentation which laid the course for later ages to develop. Arithmetic, commercial paper (bills, checks, etc.), accounts, banks, credit as we know it—all these were vastly developed by the patronage of the Italian Medici and their kind in the middle centuries.

The church was the other great construction influence of the Middle Ages. From the Fourth Century on, religious pilgrimages increased and after the Fourth Crusade in 1204 A. D. trade mingled largely with the religious objective of these pilgrimages. Venice and other cities claimed their share of the spoils. Venice's share after the Fourth Crusade was three-eighths of the City of Constantinople. This shows that "crusading paid;" increasingly the mercenary motive predominated.

LAND OWNERSHIP BRINGS POWER—MORE BUILDING

Vast orders grew up, partly religious and partly secular in their objectives. Their numbers were part knight and part baron, building their power out of ownership of land, using trade and strategic location to foster allegiance to their persons, gathering artisans about them like steel clings to strong magnets. Vast wealth flowed into the coffers of these orders—Templars, Hospitalers (Maltese) and Teutonic—wealth used in vast amounts to build monuments to the church and to their orders.

Figures on Home Construction

Number of Marriages in 1920	1,000,000
Number of Homes Built in 1920	70,000
Not Provided with Own Dwellings	930,000
Number of New Homes Required in Next Five Years	2,500,000
Proportion of Families to Homes:	
Families	125
Homes	100

Monasteries and cathedrals each fostered in their own ways not only construction itself, but all the arts related thereto. Protection was a paramount concern in those unsettled days and artisans bartered their talents for the protection and patronage of the church. The monasteries were work shops in large degree. Their chronicles abound in accounts of construction enterprises. Not captive slave labor built the cathedrals and universities and monasteries of medieval Europe, but volunteers who worked with the spur of religious or craft motives or for the protection which the church afforded. Serfs there were in those medieval days, but these were for the most part occupied on the land, not in the arts or crafts.

SOME OLD CASTLES WONDERS OF CONSTRUCTION

One accustomed to think of the Middle Ages as the Dark Centuries is amazed by the variety and development of the colonies of craftsmen collected around these churches and monasteries. As secular barons arose, a landed aristocracy seeking all the outward vestments of power and prestige, they turned to these colonies of craftsmen and added their wealth, their desires, their patronage to that of the church and added also to the growing profits realized by the craftsmen's own work.

Some of the feudal castles are wonders of construction and their furnishings and enrichment are prized even unto this day of modern wonders and skill. Innumerable construction projects were initiated that took generations of craftsmen to complete, men bound together thru the ages by consciousness of a common purpose and a common trade. Men in those days felt their common bonds; today they feel their specialty, engendered individuality. Each labored in those days for exquisite skill, for rich effects produced by endless loving toil. Native or imported materials all lent themselves to these patient builders' hands.

GIVE WESTERN BUILDING ORIENTAL TOUCH

No wonder they could produce great structures which were tragic losses when they suffered like the crowning glories of ancient Greece and Rome at the hand of vandal invaders.

The crusades of the Middle Ages brought the civilization of the East and West into contact, but it was the Saracens, with whom religion and trade went frankly hand in hand, who left the Oriental imprint clearly upon western construction. Their influence was felt in all parts of Europe and the Arabian tongue became universal from Spain to India.

What the Construction Industry Needs Most Today

1. **Public confidence based on adequate information.**
2. **Right leadership in construction operations, in material industries and in labor organization.**
3. **Immediate recognition and support by those who control our national and local financial policies.**
4. **Legislation which will wipe out all outlived or unjust restrictions on construction loans.**
5. **New heart, new courage, practical ideals and a band of men putting their best efforts into making construction and all related to construction four-square to the world, with one keynote—**

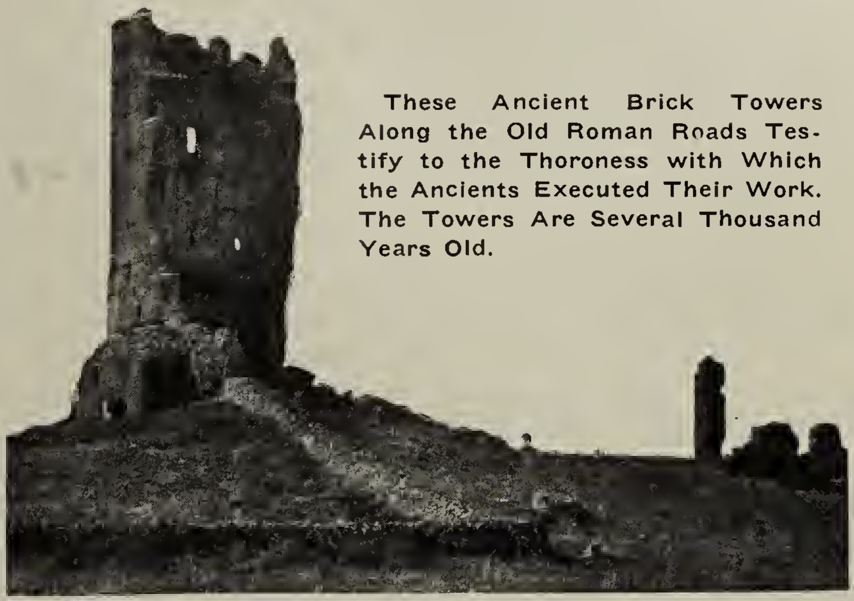
"WE GAIN NOTHING UNLESS WE SERVE"

To the Saracens belongs the credit for the beginning of our modern experimental and applied sciences. Saracen science grew up around the needs for construction. To the Saracens also belongs the credit of bringing the Suez Canal into use.

ORIENTAL CIVILIZATION DIFFERS FROM WESTERN

The Orient with its mystic skylines, its minarets and domes, latticed windows and harem walls, tells a story of civilization built upon other customs and ideals than those revealed by New York's financial skyscrapers or Pittsburgh's flaming furnaces. Our construction vocabulary is full of words of eastern origin; for instance, the word "bungalow" is of Hindu origin. The Great Wall of China is still a barrier to civilization.

After the fall of the Roman Empire building activities of kinds suffered a serious lapse because of the infiltration of barbarian hordes from the North. Yet, while they destroyed, these barbarians could not quite escape the impulse to build. They razed many of the Roman architectural triumphs, but the very stones of these ruins lured the peoples who followed the early barbarians to try their hands at construction, and so, to hasten their own civilization and to preserve something of the ancient arts. Commerce and wars and the influence of captive artisans from more advanced countries in the East all served to increase the conditions which made men need construction and taught them how to build.



These Ancient Brick Towers Along the Old Roman Roads Testify to the Thoroness with Which the Ancients Executed Their Work. The Towers Are Several Thousand Years Old.

CONSTRUCTION TODAY

Speaking of applied science and transportation brings us to our modern era of skyscrapers that house the population of a city larger than many a nation of ancient days; an era of factories that cover many miles of territory, of great ocean gray hounds, of cranes that can lift a locomotive like you or I would lift a brick, of 7,000,000 autos traveling our highways on a single day.

And what conditions do we find in this industry today?

1. The construction industry today is practically at a standstill thruout the country, if measured against the need for construction. Last year there were 1,000,000 marriages, but only 70,000 new homes built. Today there are 125 families for each 100 homes and no relief in sight. Two and one-half million new homes will be needed in the next five years.

2. Traffic has increased twice as fast as railroad trackage. There was less construction on American railroads in 1919 than in any year since 1849 (the Civil War years excepted). This lack of construction cannot be offset even by reported one-million-dollars-a-day saving due to increased efficiency in routing of cars.

3. The United States suffered in 1919 a fire loss amounting to $269,000,000 and the sacrifice of 25,000 lives. There is no visible way in which this fire loss can be replaced within a reasonable time; and year by year little is being done to diminish that loss.

SHIPBUILDING GREATLY REDUCED

4. Since the Armistice our ship building has diminished to almost negligible proportions, while starving nations clamor for American food products and our own rural people drift to cities and become consumers instead of producers of food.

5. Contemplated construction today is equal to less than one-half of what is needed; of contemplated construction only one-half is actually awarded in contracts, and still worse,

only one-half of the awarded contracts actually are under way.

6. This country has unlimited resources of raw materials of all kinds, but every material industry is beset with difficulties and disruption. Yet each of these industries is facing demands never before known, which demands would be doubled and trebled if we were doing the amount of construction that is really needed.

7. All our industries are dependent upon transportation, yet transportation facilities are steadily declining because of lack of construction.

CAPITAL AND LABOR FIGHTING GRAFT

8. Real estate values are at a standstill and labor costs disproportionate.

9. Both capital and labor are confronted with the problems of graft and profiteering and false leadership within their ranks.

10. Labor troubles are more frequent in construction and in the industries it depends upon than in any other industry.

11. The difficulty of getting funds for construction is in part a matter of legal restriction imposed on banks in regard to construction loans and in part the result of a long period of public skepticism regarding the construction industry.

12. The most significant condition thruout practically all phases of the construction industry is the monumental lack of information on which to base either laws, action, financial policies or public opinion.

Now I come to the pith of my whole talk. The brick industry is not only one of the oldest connected with construction, but it is one of those great fundamental material industries upon which construction must always depend. The brick industry cannot flourish unless construction flourishes.

WHAT BRICK MAKERS CAN DO

The Common Brick Manufacturers' Association, the National Brick Manufacturers' Association and all brick men, I believe, stand for business ideals which American industry today is sadly in need of seeing practiced.

As individuals your membership can—and I earnestly urge that you do—make every item of your advertising, every occasion of your contact with customers or fellow brick men count as an opportunity to register your faith in the construction industry as a whole, in its service to humanity, your recognition of its difficulties and trials and your steadfast intention to stand back of the honest buyer, the honest contractor, the honest dealer and the honest laborer to the end which all of these surely desire—namely, to remove the present stigma from construction so that the industry may render the public that service it is capable of rendering.

DEVELOP PRACTICAL IDEALS

No industry can develop practical ideals unless it builds those ideals in proportion to the ideals of the larger industrial whole of which it is a part. Brick men stand responsible in considerable measure for the ideals of the construction industry of the future. Ideals of the brick industry, if they are practiced cannot fail to stimulate the growth of practical idealism in all the industries related to construction. Your advertising is a potent weapon of education, both for your own membership and for the public if it is rightfully and skillfully used. My plea is that while you advertise brick and the use of brick, you make a point of continually advertising brick men's ideals and of showing how those ideals function in the conduct of your business. At the same time will you not make a point of showing how clearly you recognize the need for a new era in the construction industry as a whole, and your insistence on the five things which that industry so greatly needs today.

The hasty sketch of the history of construction which I have given you is full of inspirations and gives us reason for patience because it gives us a broader understanding of what the construction industry means to civilization. If you, who spend your lives in making brick, can at the same time see that you are making civilization and that you are making or marring men, you have caught the most fundamental pulse of human achievement.

⁂

Bill Asks for Supervision of Coal Industry

Intending to meet the deficiencies and arbitrary trade practices of the coal business that have been uncovered by the Senate Committee on Reconstruction and Production in the course of its investigations during the past five months, and culminating a short time ago in the startling revelations that coal which was produced at a cost of $2.50 to $3.50 a ton at the mines, was sold to the War Department last fall at the average price of $9.59 a ton, a measure has been introduced in Congress by Senator William M. Calder for the regulation of coal production and distribution.

The bill points out that the sufficient and economical production of coal and its proper distribution, is vital to the general welfare of the country. In providing for the regulation and control of the production and sale of coal, the bill authorizes the Federal Trade Commission to currently record and secure reports relative to the ownership, production, distribution, stocks, costs, sales and profits of the coal industry, and the trade generally insofar as it is deemed necessary in the public interests.

The Interstate Commerce Commission is empowered to require reports from the railroads on the rates of mines for the purposes of distributing coal cars from them and to compile information and statistics relative to the percentage of coal car rated requirements that are furnished for the loading, movement, reconsignment and unloading of cars. Other regulations and investigation into the industry are also included in the bill, which puts the coal industry under the close paternal wing of the government.

⁂

Encouraging Increase in Building

A review of building activities compiled by the F. W. Dodge Co., New York City, shows that contracts awarded during January in twenty-five northeastern states amounted to $111,807,000, an increase of more than eleven per cent. over the December figure. Contracts awarded in January, 1921, amounted to more than double those of January, 1919.

⁂

Short Course In Highway Engineering

The University of Illinois is offering a short course in highway engineering, beginning February 21 and ending February 26, 1921. Among a variety of other subjects to be discussed are the following: Monolithic brick pavements and bituminous filled brick pavements. Proper methods of construction will be set forth.

⁂

America Now on Sound Basis

Governor Harding stated in Chicago February 3, that all danger of a financial panic or business collapse has passed. The readjustment process thru which the country has been passing, was not local to this country, but was of general world significance, and America has passed thru it well, with no failure of any consequence.

To DETERMINE HOW SOIL ACTION AFFECTS ROADS

Prof. F. H. Eno, Ohio University, Speaks Before National Paving Brick Manufacturers' Association—Says Road Foundations Must Meet Soil Conditions—Failures More Often Due to Improper Drainage Than Materials

By E. H. Eno

Professor, Ohio State University, Consulting Municipal Engineer and Member of Sub-Soil Committee, Federal Highway Council

SPEAKING on the "Kind of an Association That Engineers May Cooperate With" Professor F. H. Eno, of the Ohio State University, held the attention of the National Paving Brick Manufacturers' Association, at the annual convention held at French Lick, Ind., December 7 and 8, 1920.

Professor Eno discussed at length the work of the Sub-Soil Committee of the Federal Highway Council, in which he is actively engaged. This subject evoked special interest at the meeting due to the support which the National Association is according this investigation through Vice-President Blair. A portion of Professor Eno's remarks follow:

"I believe this research is the biggest thing attempted in years toward the securing of better roads. It is going to take years to gather, classify and provide cures for the soil troubles. It will require a large sum of money. It will take men's time and energies and extreme patience and care. It is going to go beyond the mere matter of soil, into present day practices; engineers who talk drainage, must know how and practice drainage more fully than they have ever done in the past.

DESIGN FOUNDATIONS TO MEET SOIL CONDITIONS

Better inspection is needed. More care in details, especially in back-filling around culverts, in predetermining the amount and weight of traffic which the road may have to carry, and in designing the foundations to fit different soil conditions as they are met from station to station along the road. In fact if I were to pass judgment upon our road failures today, I would lay the blame for one-third of the failures upon the engineers who have failed to put into practice the knowledge they already possess or at least should possess.

"In this work of soil investigation there are cooperating at present the Federal Highway Council, the Ohio Good Roads Federation, the Ohio State University, the Ohio State Highway Department, the Bureau of Public Roads at Washington and then thru committee affiliations the Highway Departments of Delaware, Pennsylvania, Kansas and Utah, besides many others of which I do not know.

BLAME FOR ROAD FAILURES PUT ON MATERIALS

"I bespeak from your association and from its individual members the heartiest cooperation and financial support possible. Materials men may be tempted to say, 'What have we got to do with the soil? The troubles under the road are up to the engineer and the contractor. I have troubles enough of my own.' But let me say this, to the automobilist, the truck driver, the tax payer and to many engineers and contractors, a road failure is laid to poor material or poor construction with never a thought for soil beneath. To the public generally it is poor material. A failure is a 'black eye' to the particular surface material used. It is therefore to the advantage of all materials men to cooperate to the fullest with the agencies now engaged in this search for the trouble maker, and when the trouble is found—brand it.

INVESTIGATION CONCENTRATED ON SOIL ACTION

"Briefly, what are we doing in this search? Investigation has been going on in the Bureau of Public Works at Washington, for several years along various lines, but in the last year it is being concentrated upon soil action. Dr. Lord is determining the colloidal content of various soil and clay samples. It is known that the finer the particles in soils the greater is the capillarity. Also, that the finer grained the clay is, the greater will be its colloidal content.

"We have found that a very large percentage of our road failures occur on the brow of hills where the road cuts down thru more or less pervious strata of soils into a dense, fine grained clay, here evidently drainage ceases and the road fails. Now if we can find some relation existing between the clays that cause these failures and the colloids contained in the clay, we may be fore-armed by the knowledge that certain clays will not stand certain weights of traffic while containing moisture, therefore we will design our roads differently over these clays. Dr. Lord detects the amount of colloids now by a color stain process, which may be developed so that the ordinary man can use it in detecting dangerous clays.

DETERMINE BEARING POWER OF SOILS

"Another line of investigation is to determine the bearing power of various soils and how this bearing power varies as the water content of the soil increases. Another series of tests is being made upon methods of water proofing soils so as to prevent water getting to the soil in the subgrade.

"Another series of tests is being carried on to determine the effect of impact on various road surfaces when the soil is variously saturated with water. The impact machine being made to yield a blow as nearly like a blow struck by a truck on a solid rubber tire as it is possible to imitate it.

"At the Ohio State University we have gathered a large number of samples of clay soils from points where roads have failed and are trying to classify those soils by using various tests, such as finding the slaking value of clay placed in water, the saturation value of the soil, the mechanical analysis, (that is the fineness of particles), its capillarity, the rate of percolation, all in order to find out how easy or difficult it is to drain the soil.

PERMANENT BENCH MARKS ESTABLISHED

"We are preparing to work out some simple impact test that will determine the bearing power of the soil under various conditions. We have already started to set permanent bench marks so that we can make accurate measurements of the movement of road surfaces due to frost, excessive wet and dry weather and other causes. We are also planning saturation and drainage tests upon road models of one quarter size in order to get information to use on a larger scale.

"Your knowledge of clays, their swelling and shrinkage as water is taken up and given off,—especially your knowledge as to plasticity, ease in pugging, or any other line of action will be of great service to us. Once more I bespeak your heartiest co-operation."

* * *

KNOWLEDGE *of* SUB-SOILS NECESSARY *for* GOOD RESULTS *in* ROAD CONSTRUCTION

FOLLOWING OUT ITS PROGRAM for the distribution of information of vital interest to the public official, who has within his power the dissipation or conservation of public funds for street and highway paving, data on the importance of local conditions in their relation to new paving projects has been compiled by the National Paving Brick Manufacturers' Association, Cleveland, Ohio. The data will be available to all city and county engineers and all other persons interested in getting value received for the money expended in new paving projects. The work has been compiled by Maurice B. Greenough, secretary and chief engineer of the association.

Pertinent facts are brought out in this data, some of which may have been neglected in recent construction, to the dismay of the public officials and the chagrin of taxpayers.

Foremost among these is the urge for an exhaustive study of sub-soils, and that their behavior be catalogued, not in one section of the project, but thruout the work. Another factor considered should be the nature and proportions of the artificial base, but this to be determined only after the filler to be used has been settled upon. In this connection selection of materials that will give maximum service at a minimum cost, to insure satisfactory performance of the requirements of the base, is advised.

HIGHWAY CAN BE BUILT OF DIFFERENT TYPES

The question, in the mind of the novice public, as to why a highway may be constructed differently at one point than at another, is dealt with in this information, it being pointed out that there should be no hesitancy in adopting more than one type of construction in a single highway project, if conditions are found to indicate this need.

It also is advised that in future accurate record of all results in preliminary investigations be made, so that they will be available for future work where similar natural conditions may present themselves.

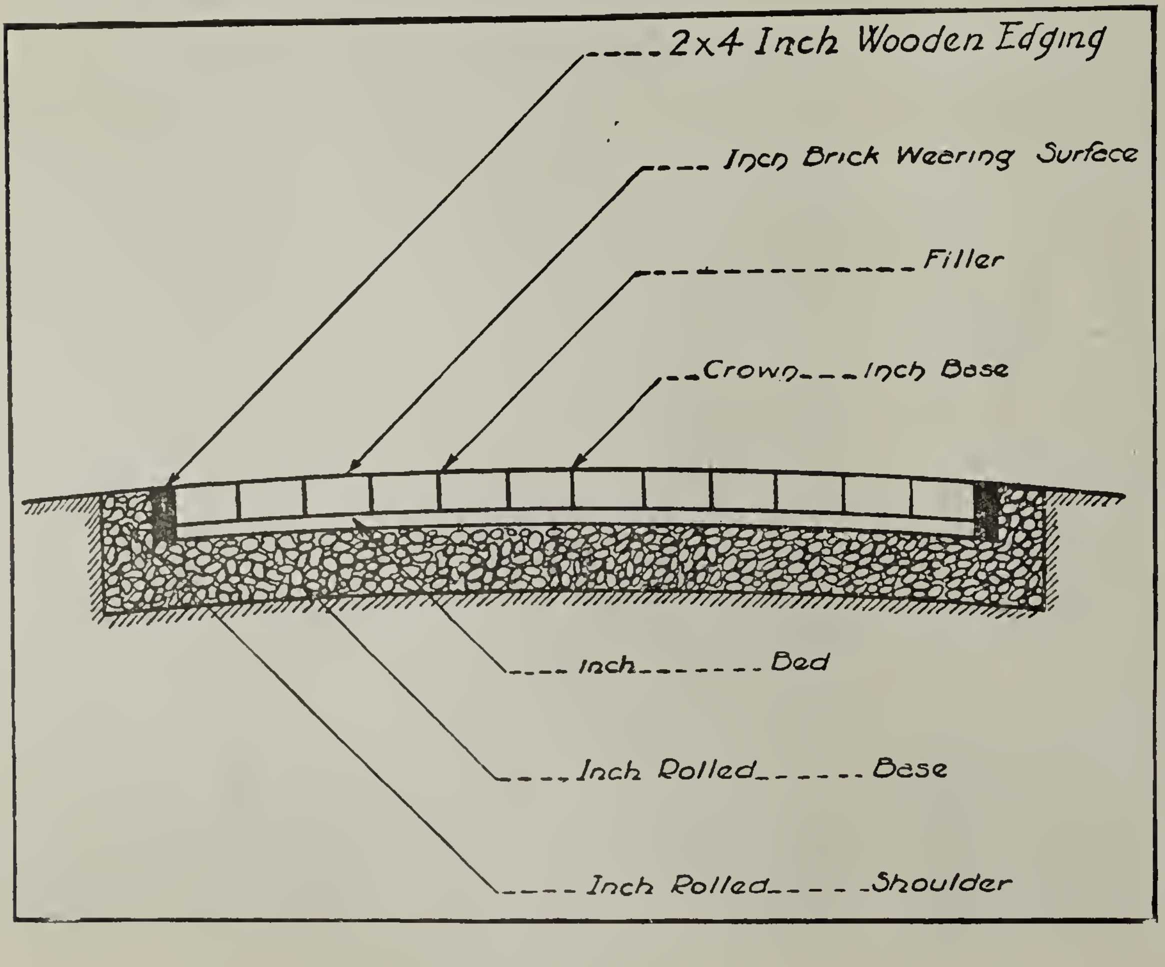
In the main, this data tends to show that as much care should be exercised in the examination of a proposed paving project, with a view toward obtaining as economical construction and lasting quality, as would be used in designing bridge piers or high building foundations. It is pointed out that no two of these latter projects may be exactly alike, and therefore different investigation and different methods of dealing with these projects is used.

Advice on brick pavement construction and the types available for construction, is divided into three large groups—wearing surface, bedding, foundation.

MUCH DEPENDS ON CONSISTENCY OF SUB-SOIL

Foundation in this connection is considered as the natural soil underlying the pavement and the artificial base, if such is required. It is shown that if the soil is such as to embody ideal foundation qualities, such as drainage, and is therefore more stable, less attention is likely to be required in dealing with the artificial support, while if the sub-soil lacks the sustaining qualities, more attention must be given to the artificial base.

Two avenues are opened to the engineer in this latter event. He either may seek to deal with the sub-soil to make it more


----2x4 Inch Wooden Edging
---- Inch Brick Wearing Surface
------------Filler
--Crown---Inch Base
----Inch------Bed
----Inch Rolled------Base
----Inch Rolled-----Shoulder

This cross-section shows the usual form of rolled-base brick pavement for country roads. The wooden edging may be allowed to remain in place after the pavement is built, or it may be removed. The filler used for this type is customarily a flexible one (bituminous material or sand); the bedding, sand or a similar material; and the base, broken stone, gravel or crushed slag bound with screenings of the particular material used, or bituminous material.

The cross-section is likewise typical of the final section developed when worn macadam or gravel pavements are reconstructed for use as a base.

Whatever the binding substance in the base, the shoulders are usually given a penetration treatment with bituminous material.

sustaining, or plan to have the artificial base withstand all the burden of the pavement.

Improvement of sub-soils is advocated, however, as it has been found to be most economical in the end, being less costly than the repair of broken down pavements, and also less costly than the construction of an artificial base that will be strong enough to withstand the burden of traffic, for the latter would have to be built like a bridge.

The data now being distributed is illustrated with cross-section diagrams, showing typical construction methods of brick pavement.

* * *

Results of Tests on Building Columns

A report on "Tests on Building Columns," which have been conducted at the Underwriters' Laboratories for the last four years, has been compiled and is being published. This investigation, the only one of its kind ever made in America, was undertaken to obtain information on which proper requirements for the more general types of columns and protective coverings could be based.

In this book of nearly 400 pages are chronicled the results of fire tests on ninety-one columns and fire and water tests on sixteen columns, all under load. Besides unprotected structural steel, cast iron, concrete, filled pipe and timber columns, the same types both partially and completely protected by concrete, hollow tile, brick, gypsum, block and metal lath and plaster were included to make the series representative of columns as used in building construction. The results with the data included in the report are a real contribution to building science.

* * *

Kentucky Clay Men Meet

The annual meeting of the Kentucky Clay Products' Association has been set for February 23, at the Louisville Old Inn Hotel, Louisville, a call having just been issued by Secretary J. Crow Taylor, following a conference with officers of the body. The meeting was held up this year so as to come after the national convention, this enabling the Kentucky body to discuss the suggestions coming from the national convention. About twelve or fifteen members are expected at the meeting.

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St. Louis Section of A. C. S. Has Fine Meeting

A very interesting and well-attended meeting was held February 11, 1921, by the St. Louis section of the American Ceramic Society. Thirty-two members attended.

Dwight Farnham, in his talk on "Industrial Conditions in Europe," brought out that conditions over there are not nearly as bad as the daily papers would cause us to believe. The workmen are getting down to business and the riots and so forth that we read of are really of little importance, but receive much publicity because they are "news."

The paper on the "Use of an Electric Furnace in Enamel Work," by H. W. C. Mehling, of the St. Louis Brass Mfg. Co., and J. W. Carpenter, of the Union Electric Light & Power Co., brought out something that it is thought is new. They are using this furnace with great success at the St. Louis Brass Co. to enamel sheet steel. It is the only one in use for this purpose in the country. The furnace is of the resistance type, having nichrome resistance units, and fires the ware to 1,700 degrees F. The paper is to be elaborated and read at the convention of the American Ceramic Society at Columbus.

F. G. Jaeger, of the Superior Enamel Products Co., was elected chairman of the St. Louis section and C. W. Berry and G. R. Truman were re-elected to their positions, those of councillor and secretary, respectively.

* * *

Guarantees Against Decline in Price

Crystal Springs Clay Co., Kimballton, Iowa, has issued a price card dated January 15, 1921, guaranteeing any customer against a decline in the market prices of any materials for the next five months, bought from the company within the next thirty days.

"Building costs," the company says, "may go higher, but they can't go lower." The following prices, per thousand pieces are quoted:

Building Blocks	
4x5x12 inches	$ 50.00
4x6x12 inches	70.00
5x8x12 inches	95.00
6x8x12 inches	125.00

Floor Blocks	
3x6x12 inches	$65.00
3x8x12 inches	80.00

Silo Blocks	
5x9x12 inches	$130.00

Drain Tile	
3½ inch	$40.00
4 inch	45.00
5 inch	60.00
6 inch	75.00

Common Brick	
No. 1	$25.00
No. 2	22.00
No. 3	20.00

Face Brick	
All colors	$50.00

* * *

Advertising In Practical Form

Favors from the Tom Green Brick Co., Sioux City, Ia., and the Pursell Co., Cincinnati, Ohio, brick and tile manufacturers, have been received in the office of *Brick and Clay Record.* Advertising which takes a practical and useful turn is being resorted to by these companies. The Tom Green Co. is distributing a pencil of the sort used by men on construction jobs and the Pursell Co. is putting out a wall spindle, very convenient for receipts, memoranda and so forth.

* * *

Chicago Ceramists Have Good Turn-Out

About twenty men enjoyed the meeting of the Chicago Section of the American Ceramic Society which was held at the City Club, Chicago, on Saturday, February 5.

L. T. Wilson, of the National Lead Co., Chicago, enlightened those present as to the manufacture of lead for use in ceramic ware. The paper prepared by B. T. Sweeley on the "Acid Resistance of Enamel Cooking Utensils" proved to be of interest to those who attended.

It was decided at this meeting of the Chicago Section to draw up a resolution which it would ask the parent body to consider at the coming convention in Columbus, dealing with the health conditions of employes in factories where lead is used in the manufacture of ceramic ware.

DISCREDIT UNJUSTIFIED SAYS BRICKLAYER

Brands Stories of Inefficiency Absolute Falsehood—Claims Bricklayer is Most Efficient Mechanic on Building Work—High Hourly Rate Necessary to Counteract Period of Dullness

By J. McKenna

President, Bricklayers' Union Local No. 1, Philadelphia, Pa.

WHAT I WANT TO DO, more than anything else, is to emphasize the point brought out by D. Knickerbacker Boyd, that it is your duty, as well as the brick contractor's, to educate the public in what takes place in the laying of a brick wall. It is your duty, as men interested in the brick industry, to find out all you can possibly find out about brick and what happens to them, after they are delivered on the job.

Now, much has been said detrimental to both sides of the business, the bricklayer, who gains his livelihood in this way, and the manufacturer or contractor, who makes a business of this, as to the cost of brick as ultimately used, that is, in the wall.

This morning, in the New York Herald, we find an editorial which says that the cost of bricklaying has increased eight times. Now, just realize what that is going to do to your business—not only to my livelihood, but to your business. You have to depend on the public, to get your product sold, and the public is being told that it costs eight times what it should to lay brick.

STORIES OF INEFFIENCY FALSEHOOD

Now. I am going to tell you, as a bricklayer, that it is absolutely a lie, because bricklayers today work nearly as efficiently as ever, and quite as efficiently as they should. And, further than that, I am going to say that no bricklayers' union, within the boundary of the United States and Canada, has ever restricted the output of a bricklayer, nor could it be possible, if they so desired. But it is absolutely not desired, because, in checking up the work of an individual, in the hours he worked on the job, it would take four, or six bookkeepers to follow a gang, finding out what each bricklayer had done. What would be the benefit? Added cost to the production. Then, how could the union do it? It is impractical to try to check up what the bricklayer does on a job. It is absolutely impossible.

Now, one thing that the bricklayers' union does do—and there is a good reason for it—is to say the line shall go up not more than one course at a time. Why? Because we know our trade better than you know it, better than anyone knows it, because it is our trade, and men, especially in the city of Philadelphia, in writing up the building ordinances, have said, right in the local law of the city of Philadelphia that party walls, in fact all outside walls, must be built with a line plumb, straight and level.

USE OF LINE MAKES FOR STRAIGHT WALL

And now, how are you going to accomplish that, without the use of a line? We know by using a line and allowing it to be raised one course at a time, one layer of brick at a time, we develop the efficiency of the men, because they know they must be able to compete with the next bricklayer, as a lay-off is coming sooner or later, and they want to stay as long as they can. They know that the foreman is watching closely and is going to notice if one fellow is loafing. That develops their efficiency, and it soon becomes a desire to try to get to the top as soon, if not sooner, than the other fellow. So the raising of the line one course at a time is absolutely no drawback to their work.

If we should abolish the law and allow one—the faster fellow—to go above the other fellow, he would get back of the line, with the result that you would not get a true, perfect wall, which the builder is entitled to, because that is what he is paying for. The slower man would be down low, and another between the two of them. What kind of a wall would that be? Not a wall that will attract prospective customers to the brick industry. We know it, because we are bricklayers and found it out long ago. The line is just as much a tool as the trowel. The bricklayer needs it absolutely, and all the time, so there is no restriction of production, on the part of the union, in enforcing that regulation.

BRICKLAYER HELPERS OFTEN INEFFICIENT

A further point to consider in the method of production, because that seems to be the thing the public is criticizing right now, especially against the bricklayer, is that of the materials after we get them. This is not an isolated case, but rather the custom: We will get mortar made by a twenty cent mortar man. You cannot get a plumber to fix your watch, and you can not get a man like that to make good mortar. But these things are not considered; the builders are trying to beat the cost of labor, and I think they are cheating themselves, when they hire a fellow who knows nothing about it. The lime comes up all burnt and full of lumps. Cement is added in lumps, and it does not get thru the sieve, and we get poor mortar. We have to spend two or three minutes tempering this. Then, in many cases, the bricklayer does not have a bucket of water alongside his boards to work with, and he can not properly temper. If he did get good, even mortar, he could take that lime mortar, with the percentage of cement, and spread it over four or five brick; but as a rule, the mortar the bricklayer gets today is full of grit and lumps—it is made improperly.

WORK NOT PROPERLY ORGANIZED

Now, with this condition, what is going to be the effect on your production? That is another phase to be considered. You have to give us good mortar and proper scaffolds. If an architect draws a plan and, on the front, has designed a frieze,

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From a talk given at the convention of the Common Brick Manufacturers' Association and the National Brick Manufacturers' Association at New York City, February 3, 1921.

the man working on this gets to within four courses from the bottom, and the wall is coming up. Then he must go to the floor above, lie on his stomach, and have someone hold his feet while he reaches down and tries to bring up the other twenty inches. Under those conditions, where is production going to come in, and how far is it your duty to see that the things are remedied?

Then further, how are you going to attract new apprentices to this business? It has been truthfully stated by Mr. Boyd that one hundred and eighty-three days and a half is what the average bricklayer makes in the year; and he must live three hundred and sixty-five, just the same as the brick manufacturer and the contractor. What are you going to do? You must charge the time I live without working against the building industry, because the bricklayer is necessary, in order that the building industry go on.

BRICKLAYERS WORK UNDER DIFFICULTIES

Now, you have to find some systems whereby you can give the men at least ten months of consecutive work within the year, to attract men. Boys are not coming to the trade. It is a mistake, because it does not give them a good livelihood, at American standards. The bricklayer must work on the coldest days, in the wind, rain and snow. When it rains too hard, not because he is wet, but because it might spoil the work, they send him home. Occasionally, the laborers will quit, and the bricklayer has to go home again. Then he is tied up. He is tied up for joists, he is tied up for sand, or there is no lime on the job; the brick are not there, and he is held up again. Therefore, the high hourly rate is necessary, to make the job worth while. He has to put up, as I said, with all these conditions.

When you do attract a boy to the trade and he begins working with this poor material—and I must say with the poor brick he gets sometimes, he soon loses interest. The boy is not interested in a trade today, with so many opportunities at his hand, especially if his father or brother has worked at a trade.

DOES NOT EARN $1,000 A YEAR

We find in a paper in Philadelphia an advertisement from a reputable business college reading, "One thousand dollars a year at the age of sixteen." Now, I have found, after careful investigation, a man who has been known as a steady worker and foreman in Philadelphia, and that, in the last thirty-three years, he has averaged less than thirty-three thousand dollars, that is, in the last thirty-three years, he has earned less than thirty-three thousand dollars. Now, if his son sees that advertisement at sixteen, he may do the same thing his father did; but by going to a business college he can make one thousand dollars at sixteen, so why should he learn the trade?

Yet, you will need workers. How are you going to get them? You have to make the work more attractive, so we will not always be scared of the bugaboo, the winter—pound cake and ice cream in summer, and three cent loaves of bread in winter. Now, no American boy wants to grow up under such conditions. There will always be a shortage of bricklayers, and a very good reason for it, unless you men reform the conditions.

BRICKLAYER MOST CAPABLE BUILDING MECHANIC

We try to make the trade a better trade by passing certain regulations in our organization. Many times we are criticized for that, but there is a purpose in it—to make it more attractive.

You will all find, men, that the bricklayer is absolutely the most efficient mechanic that exists, on a building today. I really think that Henry Ford hired a bricklayer foreman to get his system, because he certainly got the bricklayer foreman's idea, "Don't stop a minute;" and you have to hand it to him. The bricklayer does not stop a minute.

Another point: in the bricklayer's union, thruout the United States and Canada, before any man, no matter how skilled or efficient, can enter the trade union, he must first become a citizen of the United States or Canada. You hear about one hundred per cent. Americanism, and that is a fine example. We did not just start it since this war, but adopted it in 1882. Now consider that every union bricklayer you know is a good American citizen.

CONVENTIONS IN PROSPECT

February 24 and 25—Iowa Clay Products Manufacturers' Association, Chamberlain Hotel, Des Moines, Ia.

March 1, 2 and 3—Western Ontario Clay Workers' Association, Chatham, Ontario.

March 8—Illinois Clay Manufacturers' Association, La Salle Hotel, Chicago, Ill.

"Music and Bricks"

"An architect was planning a house for a famous musican. For the material he suggested common brick.

" 'Oh, brick is so limited and monotonous,' said the musician. 'Those long dull rows of red brick houses are unbearable.'

" 'Well,' said the architect, 'I can play on the piano only one tune, "Yankee Doodle," and I used to think that the piano was a very limited and monotonous instrument; but, when I heard *you* play, I changed my mind.'

" 'Ah, I see,' said the musician; 'it's all in knowing how to use the instrument. You're right. Go ahead and build the house of brick.'

"An architect knows how to get a range and variety of beautiful effects in brick that you have never even dreamed of; and yet brick is the *cheapest* fireproof building material made."

The above is quoted from an advertisement which appeared in the "Reading Eagle" Sunday, January 30. This story is a clever and unusual way to picture the possibilities of brick, and should be productive of good results.

* * *

To Distribute New Membership List

The Common Brick Manufacturers' Association of America is now compiling a new list of its membership which it will issue soon. This list is distributed widely and engineers, contractors, builders and architects refer to it frequently for information as to the availability of clay products in sections where they are called upon to build structures. Hence, the value to a common brick manufacturer of having his name included in this list is obvious.

The Common Brick Manufacturers' Association asks that if any firm is considering joining the organization, that they send in their name at once so that they can be included in the new list.

* * *

Another Increase in Rail Rates

The Interstate Commerce Commission has ruled that class and commodity rates may be increased thirty-five per cent. between eastern and southern territory and the Southwest. The ruling affects generally all shipments between the Atlantic Coast States and New England and Texas and neighboring territory.

AWAKENING APPRECIATION *for* BETTER ARCHITECTURE

National Terra Cotta Society in Campaign to Increase Terra Cotta Popularity—Sells Advertising Value in Business Buildings —Possibilities of Real Artistic Work in Terra Cotta Unlimited

AS FAR BACK AS HISTORY GOES, in fact the first history ever written was inscribed on burnt clay and terra cotta tablets, clay has been an invaluable boon to mankind. At first man used the clay mud baked hard by the sun, to build his humble abode. Then, as the clayworking art developed, he built palaces of burnt clay, ate his food from richly ornamented dishes and took pride in the beauty of his vases and clay vessels.

Now the art of burning clay has been put on a commercial basis and the modern product far surpasses the attempt of the ancients in beauty, and constructional value, but not in permanence, for burnt clay is truly everlasting. In modern construction no material is so versatile, lends itself so admirably to the working out of the most remarkable effects in building as terra cotta. In our day it has come to stand for the highest achievement in beautiful building materials.

TERRA COTTA SOURCE OF COMMUNITY PRIDE

Go to any big city, view the sights and the features to which the citizen "points with pride" and among them invariably will be a building faced with terra cotta. There is no material which can open to the architect or the designer such a vast field of possibilities in its application.

The National Terra Cotta Society is endeavoring, in an advertising campaign conducted on a large scale, to bring these facts before the public. Magazines of national circulation are used as advertising mediums in telling the story of terra cotta. The talking points of terra cotta are unlimited and in beautifully illustrated copy the society is bringing out a few of its advantages.

The best arguments that can be put forth in favor of anything that is good, is its past record and achievements. If a commodity has withstood the test of many years usage and public opinion, that commodity may be considered as being a "success." There are in evidence today terra cotta tablets and shapes molded and burnt 4,000 years ago upon which time with its disintegrating influence has had little effect. And today the biggest buildings in the world are faced with terra cotta.

WELL KNOWN MAGAZINES USED AS MEDIUMS

Some of the magazines in which the National Terra Cotta Society's advertising matter appears are the "Literary Digest," "Motor Age," "Dry Goods Economist," "Motion Picture News" and also in ten or twelve architectural and engineering papers, reaching the man who in a great many cases decides what material will be used—the architect.

The appeal to the architect should be a strong one and should strike home. An architect's best recommendation is his work, and no material known offers him more opportunity to develop ideas and original thoughts. Architecture speaks to the whole community and permanent beauty is always profitable. Terra cotta grows old, but age does not change its appearance. The soot and grime of cities can be removed with soap and water as easily as scrubbing the kitchen floor. For this reason terra cotta building is a good advertisement for the architect, owner and the whole community as it never assumes a sombre, soot saturated appearance but, figuratively, always has a smiling, cheerful face.

CAMPAIGN WILL BENEFIT INDUSTRY GREATLY

The absolute faith which the Society has in the success of the advertising campaign has been instrumental in causing it to decide on a campaign lasting three years and to cost $60,000 annually. Practically every manufacturer of terra cotta is a member of the society and the benefits of the advertising are therefore distributed fairly in proportion to the expenses.

In an advertisement appearing in the Journal of the American Bankers' Association the picture of the dignified, impressive building housing the United States National Bank of Portland, Ore., is shown. The advertisement brings out the value of a building of this design, to the bank. It impresses the man in the street with the importance of an institution conducting its business in a fitting abode.

Similarly, the picture of a moving picture theatre faced with terra cotta is shown. Terra cotta adapts itself so readily, under the hand of a skillful architect, to any style of architecture, that, no matter what the nature of the business may be, a facing design befitting it may easily be evolved.

EVERY PHASE OF TERRA COTTA BROUGHT OUT

A brochure series has been prepared by the National Terra Cotta Society and in it this class of building material is comprehensively dealt with. These brochures cover its various possibilities in the construction of office buildings, theatres, industrial buildings, schools, churches, homes, in fact every type of building known to modern architecture.

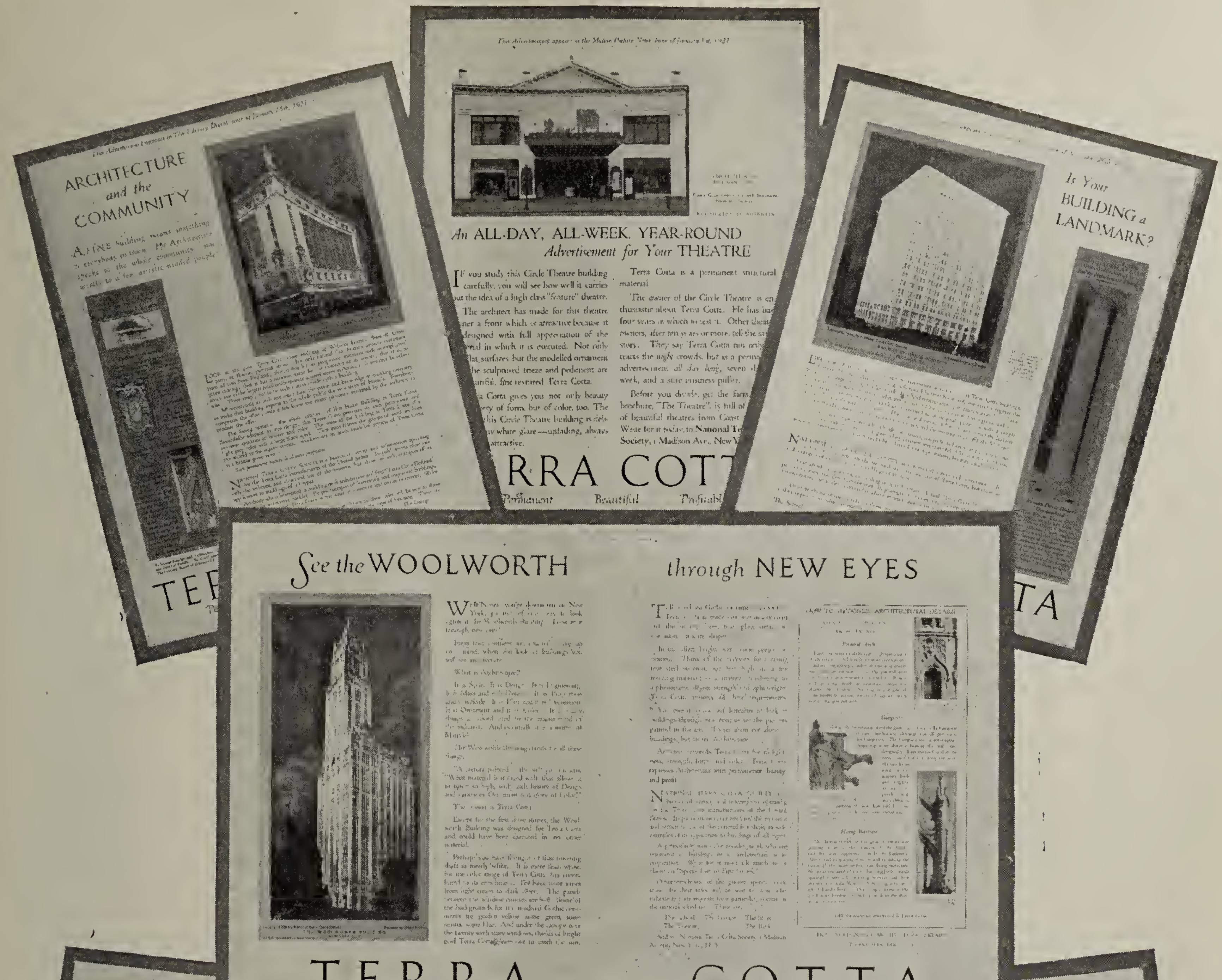
One of the tastefully made-up advertisements pictures the Woolworth building and urges that "When next you are in New York, go out of your way to look again at the Woolworth building. Look at it thru new eyes. From that moment on, you will make up your mind, when you look at buildings you will see architecture.

"What is architecture? It is style. It is design. It is engineering. It is mass and it is detail. It is proportion and it is scale. It is plan and it is decoration. It is ornament and it is color. It is many things all coordinated by the master mind of the architect. And essentially it is a matter of material. It makes a painted picture in the air."

ARTISTS' SKILL SHOWN IN PANELS

Pictures of panels with a most lavish display of the modeling artist's skill are shown, together with the type of terra cotta used in the facing of the Woolworth building. Volume number six claims that "terra cotta meets the demand for a structural, aesthetic and economical building material of larger unit and more breadth of expression than brick; of more permanence, plasticity and economy than stone; of more lasting quality and strength than wood."

As evidence of the real practical worth of terra cotta in business buildings, the society published in the "Motor Age,"


ARCHITECTURE and the COMMUNITY
An ALL-DAY, ALL-WEEK, YEAR-ROUND Advertisement for Your THEATRE
Is Your BUILDING a LANDMARK?
See the WOOLWORTH through NEW EYES
BUILDING and BANKING
A Clean, Bright Front is GOOD ADVERTISING
How TRIANGLE MOTORS secured a big AUTOMOBILE AGENCY
TERRA COTTA
Permanent Beautiful Profitable

ADVERTISING THAT CARRIES A PUNCH

The National Terra Cotta Society Has Recognized That the Way to Achieve Best Results Is to Educate the Man Who Has the Greatest Influence in Determining What Material to Use on a Building. By Putting Literature Into the Hands of the Student of Architecture, Impressing Upon His Mind the Possibilities of Terra Cotta, the Society Is Prejudicing the Young Architect's and Engineer's Mind in Favor of This Facing Material. The Other Side Has Not Been Neglected, However, and the Advertising Shown Here Speaks Directly to the Owner and Builder as Well as to the Architect.

issue of December 29, 1920, an advertisement with a picture of the Triangle Motors building, on Michigan Boulevard, Chicago, the greatest "Automobile Row" in the world. The Triangle Motors building had been open only a few weeks when, in the company's own words it "attracted one of the best automobile accounts to be had in the U. S." The neat appearance of this building, due to the terra cotta facing material was given credit for furnishing the final argument in its selection.

DO NOT USE IN IMITATION OF STONE

It has repeatedly been pointed out by prominent men in the industry and by architects that terra cotta should not be used to imitate stone or any other building material. It is distinctly an individual facing material which can stand on its own merits of beauty and dignity. Surely no architect would think for a moment of endeavoring to imitate concrete with stone! Then why lower terra cotta below its rightful level by imitating materials which are in no wise superior to it?

Used as terra cotta an unlimited number of designs are available to an architect, on the other hand, when used in imitation of stone, terra cotta loses its individuality and its standard is lowered.

The National Terra Cotta Society is supporting two fellowships which have been established at the Bureau of Standards, for research work in terra cotta. These fellowships are devoting their especial attention to work in the terra cotta business, constantly looking for improved methods of manufacturing a commodity that already has reached a high plane of development.

EDUCATIONAL WORK OF SOCIETY

The fellowships have been established on the theory that there is nothing so good that it can not be improved upon. The society is supporting a trained investigator, who travels all over the country examining and reporting on samples of terra cotta in construction work. These reports are then thoroly gone over and analyzed by the bureau.

The society is also devoting its attention to embryo engineers and architects, and the students at various colleges and universities who are studying engineering and architecture are being supplied with information on terra cotta. No information of this nature has ever been available to students before and it is doing much to teach the value, uses and possibilities of terra cotta of which most of them were entirely ignorant heretofore.

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A Correction

An item in the February 8 issue of *Brick and Clay Record,* entitled "Ohio Greatest Producer of Ceramics," says the following: "According to a report of the United States Bureau of Mines the total value of Ohio's annual output of ceramic wares amounted to $78,000,000 or 74.4 per cent. of the total national values."

Our attention was called to the fact that the percentage of 74.4 is an error and should have been 17.4 per cent. We are sorry that this mistake occurred.

⁂

Eastern Common Brick Makers' Annual and the Story of How George Made Money on a Strike

During the convention of the Common Brick Manufacturers' Association of America, at the Hotel Pennsylvania, New York, the New Jersey and Eastern Pennsylvania sections held a joint annual meeting. The gathering took place at a luncheon at the Hotel Pennsylvania, on Thursday, February 3rd, at which Wm. Schlake, president of the parent association was present and spoke, as well as C. H. Bryan, Fritz Salmen, George Parry, W. K. Hammond and William Parry, directors.

Very little business was transacted, the guests taking turns in making informal speeches to the gathering. The best story that was told was one by George Parry, president of the New England Brick Co., Boston.

It seems that the company was having considerable trouble at its New Hampshire yard. With startling regularity the telephone on the desk of the president in Boston would ring and a voice on the other end of the wire would announce a new demand in the way of an increase in wages for the yard force. On one particular morning the bell having rung with its usual punctuality, George answered the phone saying, "Well, how much is it today?" You can well imagine his surprise when he was told that it wasn't a question of wages this time. The crew did not like the kind of board they were getting. The quarters were all right but the food—well, there was apricot pie for breakfast, apricot pie for lunch and some more apricot pie for supper. The ring leader announced that the crew would rather have some lemon cream pie for a change.

"George," said the voice at the other end of the wire, "if you ever did anything quick in your life, call up our provisioner and tell him to get a barrel of this lemon filling out on the next train."

Conversation with the provisioner brought out the information that the New England Brick Co. actually made money on the strike. "You see it is this way," said the grocer. "Apricots are about as expensive a thing as you can put into a pie. This lemon filling is much cheaper," whereupon George is telling all the boys how he made money on the strike.

⁂

Europe Shipping in Building Materials

An influx of foreign made building materials has been noted at several ports in the United States which may have some influence in starting a movement to build this spring. Danish brick have been offered for use in American construction projects at a price below that asked for the domestic product. It is generally supposed that firms having connections with European brick manufacturers have been placing this Danish product on the market.

The latest and most determined effort to popularize foreign building materials is the attempt to market German cement. Douglas fir from the Pacific Coast is being offered severe competition by Norwegian lumber.

The unfavorable exchange between this country and Europe has confronted the shipping interests with the problem of what to carry back in their empty bottoms. Altho vast quantities of building materials could have been brought over in the almost empty west-bound ships, when prices were at their peak in America, labor difficulties prevented Europe from taking advantage of this opportunity. Therefore foreign building material did not come into the New York market until after the prices of domestic products had come down considerably.

When foreign building material began to come into this country in quantities it found itself in competition with American made materials selling about thirty-five per cent. below its price. Whether this foreign material will be a serious competitor will depend upon the ability of the American manufacturer to keep his costs down to a level where he can successfully compete with the European made product.

⁂

New Editor American Ceramic Society Journal

Announcement is made that Dr. W. E. Washburn, director of ceramics at the University of Illinois, Urbana, has been appointed editor of the Journal of the American Ceramic Society, beginning with the current year.

The BUILDING SITUATION *in the* EAST

WHILE A REAL REVIVAL in construction activities is still a number of months off, the trend towards this end is becoming more and more marked in the eastern centers as the weeks advance and spring looms nearer. During the past two weeks there has been a noticeable increase in the number of contracts awarded for building work, and this condition, following a decline in the price of different basic commodities, gives unmistakable evidence that prospective builders are simply awaiting lower quotations—they know that it has got to come.

The general sentiment as expressed by manufacturers and dealers in building materials is one of encouraging and optimistic attitude; it is hard to find a pessimist among the "live wires" in the industry, for such a man does not exist. Reports from architects and engineers give justification for this spirit and the outlook, following reasonable stability in material prices, is decidedly good for the coming spring, summer and fall seasons. The person who thinks otherwise has a surprise in store for him.

SPECULATIVE INTERESTS MAY TAKE HAND

Speculative building, practically lost for a number of years past, is likely to get into motion during the early spring and summer months. This season, it is generally believed, will show the low level in material prices, with quotations of attractive moment to the man who has held a project in abeyance since the period of high figures. Again, the housing situation shows no improvement, and while there is apparently less talk as regards conditions, there is certainly no betterment, and the intensive demand for dwellings and apartments still persists. And the call must be answered.

A survey of the situation in the different eastern districts shows the following:

New England: There is noticeably increased activity in a number of the important cities of this section, and in and about Boston industrial work is taking on a brighter aspect. To be sure construction is far below normal, but increasing call for materials and increasing volume of permits issued only can lead to the conclusion that resumption is on the way. Textile mills, iron foundries and other branches of the metal-working trades, as well as miscellaneous industries are beginning to see the wisdom of making proposed extensions when the opportunity is available.

BUILDING DROPPED 50 PER CENT. IN DECEMBER

Taking forty-one municipalities in this district, practically the majority of the larger cities, inquiries show that thirty-six are operating below normal in the building line at the present time, three are at normal and two above normal. During the month of December there was a sag of easily fifty per cent. in construction work in the New England territory, as compared with fall months, and with the turn of February, this is being lowered.

Prices at Boston show no important change. Leading dealers are quoting Hudson River brick at $28 delivered and Connecticut material at $32. Face brick, water struck kiln run, is selling for $50 a thousand, and ruff texture selections at $60. Fire clay is $30 a ton. Fire brick, No. 1, is being turned at $80 and better grade material at $90. Terra cotta partition blocks, 4x12 in., are $200 a thousand, and 8x12 in. size, $280, delivered. Late quotations on standard sewer pipe show a thirty per cent. discount off list, and double strength, ten per cent. The call for burned clay products is fair, with common brick easily the leader in point of call; second-hand brick is finding a fair market locally at the present time.

FEW HOMES BUILT IN BOSTON LAST YEAR

The Chamber of Commerce, Boston, is making an inquiry into the building situation in this section, and some interesting and pertinent testimony has been given. Herbert A. Wilson, building commissioner, set forth that but 145 new houses, designed to accommodate 320 families, were constructed in the city during 1920, while this same year showed practically normal conditions with regard to the erection of offices and mercantile buildings, and garages. In regard to labor, Alexander K. Williams, head of a local construction company, said that in 1898 a mason and helper laid 1,500 brick in an eight-hour day, at an average wage of thirty-six cents a hundred; at the present time, they average 500 brick a day at a rate of $2.72 a hundred.

Wilson S. Spiers, head of the Spiers Brick Co., anticipates a lower price for brick during the coming season; taking the case with his company, which produced about 5,000,000 brick in 1920, he said that installation of new machinery and other economies in manufacture would show a saving of from fifteen to twenty per cent., and that such reduction would be passed on to the consumer. Ira G. Hersey, a local contractor, gave interesting testimony to the effect that late increases in building costs brought about by war-time conditions, would be reduced about fifty per cent. during the next five years, in other words, a building that cost $50,000 before the war and $100,000 today, would decline to $75,000 within the next five years.

BOSTON CONTRACTORS REDUCING WAGES

Following the lead taken by Boston contractors in reducing the present wage scale, other cities in this section are taking a similar action, making the rate ninety cents per hour for skilled mechanics instead of $1 as heretofore, with corresponding reduction for unskilled men. The different municipalities include Wakefield, Lexington, Winchester, Melrose and Reading. Members of the Building Exchange of New Haven, Conn., are planning for a minimum wage scale of from twenty to twenty-five per cent. lower than the present rate.

New York: There is a quickening aspect in local construction circles, and plans out for bids are growing in volume. The popularity of brick and burned clay products continues with a vim for apartments, office buildings and other structures, and the prospects for greater call for these materials grows brighter every day. Architect Andrew J. Thomas, 137 East Forty-fifth Street, is preparing plans for a new thirty-family brick apartment to be located at Flushing, L. I., estimated to cost $400,000; Irving Morgan, architect, 335 East 149th Street, has plans under way for a brick apartment to house fifty-five families, located at Grand Concourse and 167th Street, to cost $250,000; the Stratton Realty Co., Mermaid Avenue, Brooklyn, is finishing plans for a new factory to be used by printing interests on Stillwell Avenue, two-story, brick, to cost about $60,000.

TWENTY-NINE COMPANIES INDICTED

As a result of the Lockwood Legislative Committee investigation in the building industry in New York, a blanket indictment has been handed down naming twenty-nine companies, all members of the local dealers' association of masons' building materials, as violating the Sherman anti-trust law. A total of fifty-six individuals connected with the different companies has also been named in the proceedings.

That construction costs are declining in the New York district is shown by an illuminating example in connection with municipal work. Last September, the Transit Commissioner, John H. Delaney, secured bids for the construction of new repair shops for the municipal subway system, with lowest estimate of $456,191. Holding the project in abeyance, bids were taken on the same plans early in the present month, with lowest estimate now $376,442.70.

Plans are being perfected for the "Own Your Home" exposition to be held at the Twenty-second Regiment Armory, New York, for two weeks, from April 16 to 30. This will be the third exhibit of its kind in the metropolis, and is destined to surpass the other shows in attainments and proportions. A complete "Own Your Home" village will be shown, to stimulate modest home building. It is estimated that at this time close to 100,000 families in New York will be looking for living quarters, and the exposition will have a pronounced effect in encouraging dwelling construction.

BRICK MARKET IMPROVES

The past fortnight has shown a decided improvement in the New York brick market; inquiries are greater and demand very much stronger; the period shows a total distribution of twenty-two barge-loads, with destination primarily in Manhattan. Prices continue from $16 to $18 wholesale, alongside dock, with dealers asking slightly over $22 a thousand for delivery on the job. No material is arriving from the up-river points at the present time, owing to the ice-bound condition of the river.

While prices are expected to remain at present levels, it is likely that any sudden demand to deplete stocks would have a tendency to advance quotations to a $17 or $18 level, particularly in view of the situation of transportation, making immediate replenishing of stocks difficult. Second-hand brick is in fairly active call, with price prevailing of $36 per load of 5,000. Face brick holds at $50 and $60 levels for first grade materials, while Colonials are quoted at $45 a thousand, and rough and smooth reds at approximately the same figure. Fire brick is being turned at $75 and $80 by local dealers. Hollow tile for exterior use is not stocked in Manhattan, and interior burned clay tile continues under rather slow demand with no change in price.

WAGES REDUCED AT BUFFALO

A general wage reduction for workers in the building trades at Buffalo, N. Y., took effect on February 7, and with the exception of bricklayers, all of the men have agreed to the change. Carpenters will be paid eighty cents, instead of $1 per hour; steamfitters and electricians are reduced from $1 to ninety cents an hour, while other trades have met with a ten to twenty per cent. reduction. Bricklayers have been receiving $1 an hour with a bonus of 12½ cents an hour; the bonus has been removed, and the men are now out on strike, with demand for $1.25 an hour.

There is a definite movement to create an open shop in the building trades at Buffalo. The Independent Building Trades Craftsmen have been organized by former union workmen, comprising bricklayers and masons, carpenters and millwrights, plumbers and steamfitters and all other important trades, and work is being solicited from employers on an open shop basis; in this connection, the contractor or employer must assure the organization that he will operate permanently on such a plane.

NEWARK BUILDING STAGNANT

New Jersey: Construction activities at Newark continue under a condition of lethargy. There is no defined movement in any branch of the trade, and work is being limited to necessary construction. The total building in the city reached only $375,884 in January as compared with $1,882,108 in the same month of last year, a decrease of $1,506,224. The bright spot in the situation is found in the increase in number of dwellings being constructed, and the first two months of the year indicate encouraging possibilities in this direction for the spring season. There is no factory work going on at the present time, and the attitude of union labor recently killed a $1,000,000 vegetable oil plant extension in the meadow district, the company deciding to defer construction on such account after plans were prepared and estimates received.

Trenton, Paterson, Passaic, Jersey City and other important cities in the state are operating at a slow pace in construction work. Trenton shows $50,000 in valuation of building permits for the month of January, with operations composed of brick dwelling and mercantile buildings. In other cities mentioned, the January building is equally low. Some school work is in sight at Camden, where the Board of Education has adopted resolutions calling for a bond issue of $1,000,000 for new brick buildings and extensions to present schools. Early in the fall, according to present indications, there will be considerable building at Atlantic City, and one of the most important projects comprises an addition to the Hotel Shelburne to cost about $3,500,000, including certain reconstruction in existing structure.

MATERIAL PRICES HOLD FIRM

The building strike at Newark, mentioned in the last issue of *Brick and Clay Record*, has been settled and the men have returned to work. The strike was a sympathetic one on behalf of painters, who resisted a wage reduction from $9 to $8 a day; these men will continue at an $8 level until April, 1922, in accordance with a wage agreement signed with employers. Bricklayers, plasterers and cement finishers will receive $1.25 an hour, as heretofore; carpenters, $1 an hour, while hod carriers will be reduced from eighty and eighty-five cents to seventy-five an hour. Laborers will receive fifty cents an hour instead of sixty to seventy cents.

There is no important change in building material prices in the different New Jersey cities; cement has taken a drop, but burned clay products of all kinds hold well at existing levels. Brick at $25 a thousand is the popular rule in the Northern New Jersey districts, while in South Jersey, including Trenton, a $26 and $27 price, on the job, prevails. Face brick is around $50 and fire brick from $75 to $80 a thousand. Hollow tile maintains at recently established levels, and is in fair call for garage and other small building construction. Sewer pipe is moving slow, as are other burned clay goods, such as drain tile, wall coping, partition blocks and the like.

Philadelphia: There is little to report from Philadelphia in the line of new construction, for conditions persist on a low scale. Records of the building department for January show a total of $1,124,440 for the month's permits, which, while fair under the circumstances, is a decrease of $2,428,350 as compared with the corresponding month of last year. Housing and dwelling operations continue at low ebb, and during the month but forty-two permits were issued for work of this kind; the normal point hereabouts is between 500 and 600 a month. Garage work and lesser construction holds up well, and this character of work is bringing the bulk of call to local dealers in burned clay goods and other materials.

WORKING TO REDUCE WAGE SCALE

The big question of the hour at Philadelphia and vicinity is the matter of wage for labor in the building trades. Employers are bending every effort to effect a reduction, believing that upon this important point hinges the revival of local building operations. The Building Trades Employers' Association has adopted resolutions opposing any demand for increase in existing wage scale and recommending that steps be taken immediately to effect a reduction in existing schedules. A few branches of the trade are out with a demand for $1.50 an hour, but the attitude is indefinite, and it is not likely that the movement will materialize.

The building material market at Philadelphia is just moving, and that is about all. Dealers are far from satisfied, but take a hopeful view of the situation and believe that far better conditions will ensue within the next sixty to ninety days. Prices show no important change; cement and a few other products have dropped to lower levels, while brick and burned clay goods hold at established levels. Common brick is selling for $25 a thousand on the job, while face brick is quoted from $40 to $50, according to selection. A good grade of fire brick is securable at $75 and $80. Hollow tile, partition tile, sewer pipe and miscellaneous burned clay products are operating under reduced call, with prices giving no indication of change before the turn of the month, if then.

* * *

Hollow Tile Does Constructive Advertising

For a long time hollow tile was used chiefly as a fireproofing material or in interior work, such as partitions and so forth. In recent years, however, hollow tile manufacturers and the Hollow Building Tile Association have been pushing the use of hollow tile for home construction. Results from these drives have evidenced themselves in a greatly increased demand for hollow tile for residence building.

Many obstacles have had to be overcome and many still remain to hold back the increased use of this building material. In many cities building ordinances are so framed as to work an unnecessary hardship on the hollow tile manufacturer in the marketing of his product. The merit of this building material will, however, continue to assert itself in its ever-increasing usage.

In the latest effort of the Hollow Building Tile Association, a folder is put out illustrating eight beautiful homes and three garages built of hollow tile. The plans and specifications of every one of these houses may be procured from the Association or from the local building material or lumber dealer for $10. The price of the garage plans is $2. The folder also advises of plans for farm buildings which will shortly be available.

On the front of the pamphlet is a review of the building situation which informs the prospective builder of the reduction already taken place in building materials and also in labor in the form of greatly increased efficiency. "Build Now" is the slogan, for it is feared that this spring and summer may see a repetition of the same conditions confronting the buyer in 1920.

* * *

Convention of Tile Manufacturers

The eighteenth annual convention of the Tile and Mantel Contractors' Association of America, held at Philadelphia, Pa., February 8 to 11, proved one of the most successful in the history of the organization, with a representative attendance from all parts of the country.

The sessions were supplemented by a fine exhibit of tiles and ceramics, indicating the attainments of the industry up to the present time and great possibilities of the future. The exhibit was free to the public and included an exquisite assortment of faience and decorative work, including specimens from the American Encaustic Tiling Co., and the Mosaic Tile Co.

Among the speakers at the different meetings were: F. W. Walker, L. V. Solon, art director of the American Encaustic Tiling Co., Zanesville, Ohio; D. Knickerbacker Boyd, architect, Philadelphia, and consulting architect for the Associated Tile Manufacturers, and H. C. Mueller, head of the Mueller Mosaic Co., Trenton, N. J.

The labor question proved one of the important topics of the gathering as the industry is facing a scarcity of skilled artisans. A plan for training skilled journeymen for the tile contracting business was adopted at one of the sessions, covering an apprenticeship system in each local organization, by which expert journeymen can be obtained in a period ranging from eighteen months to four years.

Officers of the association in attendance were: E. B. Butler, Milwaukee, president; E. H. Barry, Rochester, N. Y. and F. W. Wagner, Portland, Ore., vice-presidents; Thomas J. Foy, Cincinnati, Ohio, secretary and treasurer. William Moore, Philadelphia, was chairman of the local arrangement committee.

* * *

Standard Contract for Coal Buyers

There is a movement on foot for the formulation of a fair, equitable and inviolate form of contract governing the purchase and delivery of coal. To this end W. L. Chandler, president of the National Association of Purchasing Agents, called a meeting of the Fuel Committee of this organization at the William Penn Hotel, at Pittsburgh, February 18 and 19.

At a later meeting the Advisory Council, composed of five members of the Fuel Committee, will meet with representative coal operators, distributors and purchasers to secure advice and cooperation relative to the provisions of the contract as worked out at this meeting. The proposed contract form is attracting wide attention.

* * *

Impossible to Estimate Housing Shortage

E. T. Trigg, chairman of the Industrial Relations Committee of the Philadelphia Chamber of Commerce, said at a recent Housing Conference of the Chamber of Commerce of the United States that diligent search, nation wide, has failed to reveal any dependable information as to the extent of the national housing shortage. In certain cities more or less thoro investigations of existing shortages have been made.

Aggregate of permits for buildings issued by various communities does not reflect the actual construction completed, especially during the past several years, as during that time many permits have been granted for buildings not yet constructed. For four years, from 1917 to 1920, inclusive, average annual permits issued for same type of dwellings in certain cities referred to was 14,000, indicating an annual average for the country of approximately 230,000, a decrease in permits issued of 170,000 annually.

* * *

Year-Book Contains Interesting Cost Data

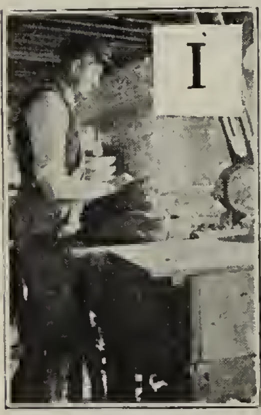
The 1920 year-book of the National Association of Cost Accountants has been published and should prove of interest to all men interested in cost work. The book contains a complete report of all the papers read at the convention at Atlantic City, together with the discussions which followed the reading of each of these papers. The book also contains a report of the discussion on uniform cost accounting from the standpoint of the trade associations.

A copy of this year book may be obtained from the secretary of the National Association of Cost Accountants. 233 Broadway, New York City.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

POTTERY MANUFACTURE IN JAPAN



IN THE FAR EAST off the coast of China lies the little group of islands comprising Japan. In direct contrast to its neighbor Japan is a progressive country with an ambition to become wealthy and powerful. Industry is flourishing and the Japanese are becoming more and more modern with the advent of new ideas and their adoption by the people.

Altho the art of making chinaware was developed in the country from which it derives its name Japan now far surpasses it in amount of ware produced and exported. We say quantity advisedly for the question of better quality is one not easily answered.

Of all countries now importing ceramics into the United States, Japan occupies the commanding position. Federal statistics show that the Japanese pottery manufacturer looks upon the United States as his best customer. For eleven months in 1920 Japan sold ceramics into the United States valued at $4,228,501, and for the same length of time in 1919 its American export business totaled but $1,846,818, which indicate a growth in business of $2,381,684 over that in the first eleven months of 1919. It has been recently indicated that for many years the Japanese "tea", or what is commonly known in the United States as a cup and a saucer, was the biggest item the Nippon pottery manufacturer exported, but in more recent years there has been a tendency among those Island manufacturers to get into the "flat" and "hollow" ware business. The former ware refers to plates while the latter is confined to cover dishes, teapots and similar containers.

AMERICAN-MADE WARE IN GREAT DEMAND

Buyers of this class of merchandise and importers have recently pointed out that there are in the United States today thousands upon thousands of dozens of "Jap teas" all bought at the high Japanese market, and that these stocks are not moving with the freedom that was anticipated when they were ordered.

As against this situation, the American-made cup and saucer continues in greater demand, with the American pottery manufacturers sold up on the item for many months ahead, and at a firm selling list.

The method of manufacturing pottery in Japan is unlike that followed in the United States, and even in English potteries, yet here and there some similarity can be found. However, many crude ideas are still followed in the Japanese pottery.

Not long ago a very close study of pottery manufacturing in Japan was made by William Burgess, of Trenton, N. J., first vice-president of the United States Potters' Association. Being accustomed to modern ideas in pottery making, Mr. Burgess was greatly surprised when he journeyed here and there about Japan and China to get a "close up" view of Oriential methods of pottery manufacturing.

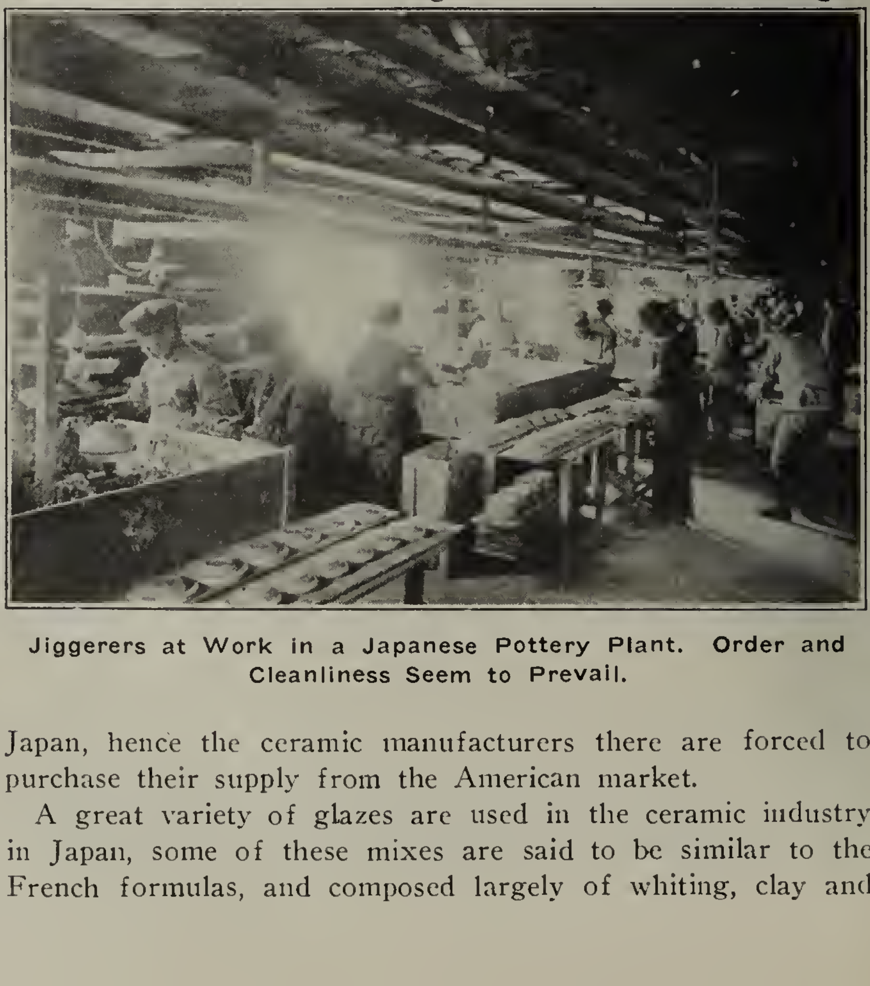
INDUSTRY SHOWS LACK OF INITIATIVE

"Two characteristics of the operative employed in the china and pottery industry of Japan particularly impressed me", observed Mr. Burgess upon his return. "First, their great respect, almost that of reverence, for their employers and factory officials; and second, the power of imitation but the lack of initiative both on the part of the worker and the operator. The Japanese pottery industry can be divided into two general groups according to the method of manufacture; namely, the ancient and common method of making the ware and the modern and up-to-date method."

The power of imitation has long been the forte of the Jap ceramic manufacturer, especially the copying of methods of manufacturing of the general line. This does not, however, bear any reference to the development of the Jap art lines, which have a niche in the markets of the world that is all their own.

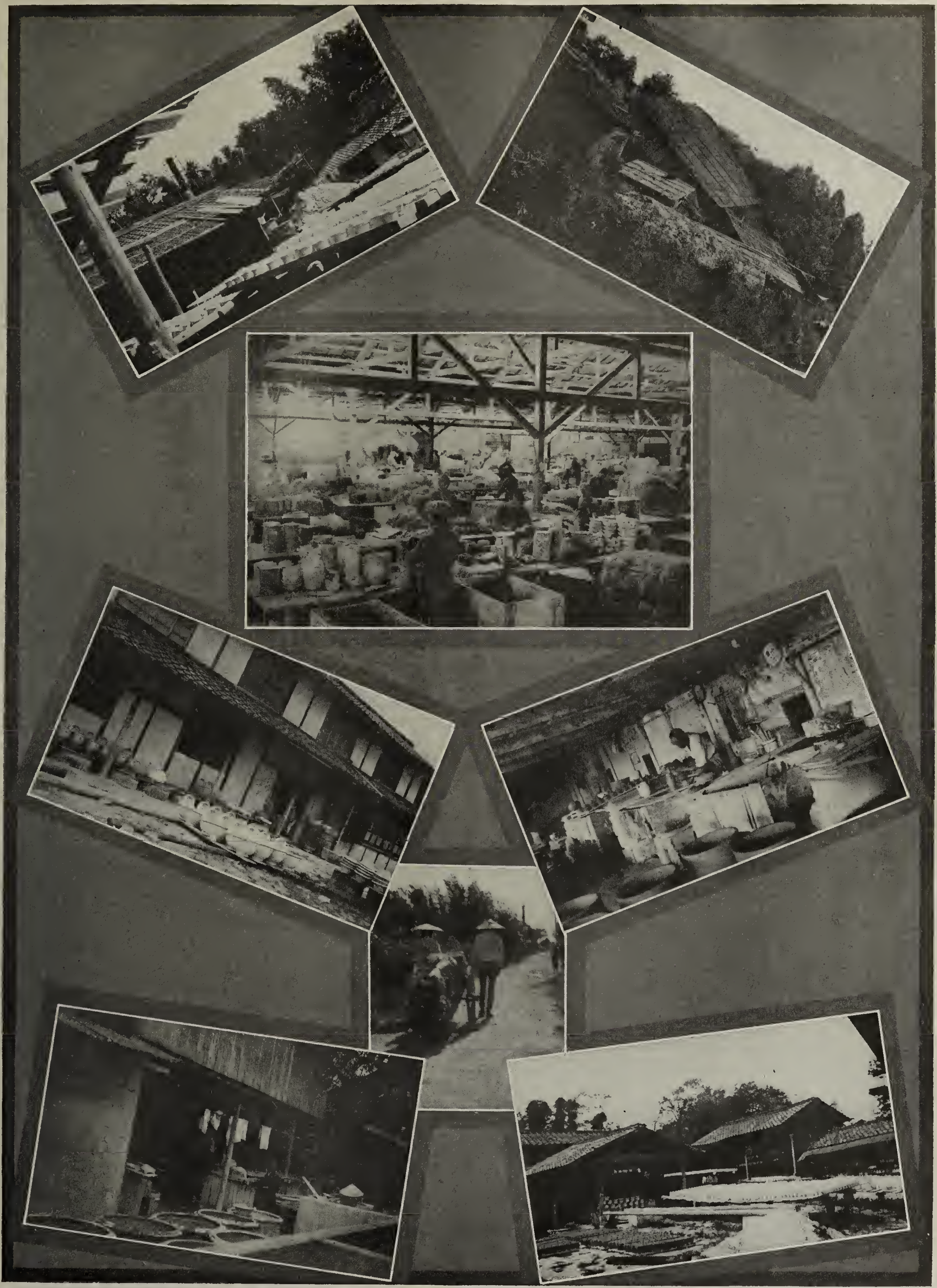
JAPAN HAS NO GYPSUM SUPPLY

One of the oddities of the pottery trade in Japan, is that the plaster from which the molds are made is obtained thru the identical channels that ship to the American pottery manufacturers. There has been no supply of gypsum discovered in Japan, hence the ceramic manufacturers there are forced to purchase their supply from the American market.



Jiggerers at Work in a Japanese Pottery Plant. Order and Cleanliness Seem to Prevail.

A great variety of glazes are used in the ceramic industry in Japan, some of these mixes are said to be similar to the French formulas, and composed largely of whiting, clay and



Starting at Top and Reading From Left to Right, Downward, the Above Views Taken in Japan Show: (a) Community Mold Making, (b) Hillside Community Kiln, (c) Pottery Packing Department, (d) Sanitary Ware Produced in Community Pottery District, (e) Potter "Throwing" Ware, (f) Delivering Cups to a Market Sixteen Miles Away, (g) Original Slatted Clay Press in Slip-House, (h) Community Cup and Saucer Making.

feldspar, while other glaze bodies are said to be composed of fritt of borax and flint, lead, zinc and whiting, the latter commodity being obtained from the United States.

Both coal and wood is used by Japanese pottery manufacturers for kiln firing, but in the "community kilns" wood is the exclusive fuel. In the kilns, those similar to the style in use in American general ware pottery plants, coal is the only fuel used.

CHINA MAKING COMMUNITY INDUSTRY

The "Community kiln" in Japan is one of the oddities of the industry, especially to a tourist.

A great bulk of china ware produced in Japan is made under the old method of manufacture and to a considerable degree is a house industry or a community industry. For instance one family, with a greater or less number of assistants make models and molds, and in the same neighborhood can be found another family with some assistants making "teas" or cups and saucers, while another family is concerned in the production of making hollow ware by throwing and turning. The "teas" are cast. In still another house can be found a family making ware by the method of pressing, the latter method, however, being rather limited in extent.

In several places in the pottery districts of Japan, the tourist will find one of these houses extended into quite a little shop, where complete tea sets are made exclusively by the casting process, a process that has become more general in American potteries in the last few years than formerly.

2,000 CUPS PER DAY WORKER'S CAPACITY

White cups and saucers are produced in Japan in exceedingly large quantities, it being said that one Jap community pottery worker is able to maintain a record of producing two thousand cups per day. The saucers are made by hand from a mold placed on a whirler, the latter being turned by hand.

Ware in Japan is generally glazed in the dry state, and then carried to the community kiln. A very simple device is used by the potter in carrying his ware to the community kiln. A square form, consisting of two wide side boards, upon which the cups are placed, are held firm by two narrow end pieces of wood, these nailed to the wide boards. In the centre of the end boards is attached a wire or rope, and then the ends of these are fastened to a pole. The carrier then places the pole over his shoulder, picks up the crude carrying device loaded with ware and starts afoot for the community kiln with his ware.

KILNS BUILT INCLINED

These community kilns are built on a hill side and in banks of from two to eight or ten kilns. The battery of kilns is therefore built on an incline, and the bottom or first kiln is fired first. The next kiln which is some feet higher than the second kiln then takes the heat from the bottom kiln, and from the second kiln continues to pass on into the next highest kiln. The process is the same thruout the entire battery of a community kiln. Some of these kilns are thirty feet long by fifteen feet wide and about twelve feet high. The heat enters the kiln thru fire holes, the entire length of the kiln. When the heat circles around and over the rounded roof of the bottom kiln it then enters the next highest kiln thru a series of openings, about one-third higher than where the original heat entered on the next side to the fire holes.

Large logs of wood are used as the initial fire in these kilns, but when the heat is sufficient in the inside of the bridge wall to ignite the wood, the fire is sustained and increased by the throwing in from either end of the kiln pieces of wood fifteen feet in length and from two to three inches in diameter. The wood is delivered at the kiln in bundles containing about two cubic feet. The process of firing these community kilns

This Main Office of a Japanese Pottery "Shows-Up" Some of the Offices of Our Modern American Pottery Plants.

This Splendid Photograph Shows the Decorating Department of a Japanese Pottery Plant. Even the Design on the Vases Is Discernible.

is rather continuous. The expert firemen, one standing at each fire hole, throw the wood into the flame at the rate of one stick about every thirty seconds. In this work, these men become rather skillful, and the heat produced from such a fire is sufficient to heat up to a 15 or 17 cone.

KILN SYSTEM MORE OR LESS CONTINUES

When the ware in the bottom kiln has been "fired off," the fireman then goes to the next kiln, where sufficient heat has accumulated to ignite wood which has been cast into the kiln. By the time the third kiln is ready to fire, the first kiln or one at the bottom of the battery has cooled sufficiently to permit it to be drawn.

By this same method certain lines in the sanitary pottery line are made and fired, also a line of chemical pottery, doll's heads and a large variety of vases and fancy ware.

* * *

Drastic Action Taken to Produce Better Ware

Three of the largest pottery concerns in the East Liverpool, Ohio, district have taken the lead in the campaign for better ware, and it is now indicated that others will take a similar step without delay. During the war period, the distributors of general ware were so anxious for stocks that they would accept anything that could be shipped, without reference to quality. The dealers urged the manufacturers to increase output, and in turn the workmen were urged to "speed up."

Quality of course had to be sacrificed. Then, with the ending of the war, altho the demand continued heavy, the dealers continued to take any grade of ware that could be shipped, especially during the first three-quarters of 1920. Then the work started to turn.

The dealers began to receive complaints from their customers, and in turn these were passed back to the manufacturers. Then the latter in turn went back to the workmen, and it is at this stage where better workmanship is now being demanded.

The Knowles, Taylor & Knowles Pottery Co., of East Liverpool, called every plant superintendent and department manager into their main office a few days ago for a general conference. It was then that General Manager John B. McDonald issued an order to these managers that hereafter only the best of workmanship would be accepted from the different shops, and that when inferior ware was turned in for "count," it would not be accepted. And in turn—if the individual worker would not produce a better piece of ware, such a worker was not to be retained on the payroll.

The first week this rule was in effect a number of employes were "let out," and among them were several "oddmen," or common laborers, and one truck driver. No line was drawn whereby there was to be any exception to the rule for better workmanship. In a few instances immediate discharge papers were given these workers, as the manufacturers will not hire a pottery worker unless he presents his discharge papers from his last employer.

The D. E. McNicol Pottery Co., who put a similar rule in effect has already noticed an improvement in its ware. Instead of having about seventy per cent. of a kiln of ware counted out as "thirds," this has been reduced to less than 25 per cent.

At the plant of the Thompson Pottery Co., the better ware campaign has been inaugurated also. Several employes of that concern have been given their notice, and these vacancies are soon filled by those who announce their willingness to give the best effort possible.

Changes are also to be made at the Carrollton, Ohio, plant of the Albright China Co., of which William T. McNutt of East Liverpool is the directing head. George Stevenson, for many years one of the plant managers of the Homer Laughlin China Co., under the office of Joshua Poole, has been placed in charge of the clay shops of the Albright plant, with the injunction to get better ware. He has been given a free hand in this respect.

The don't-care pottery worker has no ground to stand on today. Less than a year ago he was in the saddle, and his employer had little if anything to say to him.

Conditions today are reversed. The dinnerware manufacturer now has something to say about the management of his plant, and what character of workmanship will be acceptable, not only to him, but to his trade.

* * *

Seek Solution to Question of Imported China

The executive committee of the United States Potters' Association, headed by W. L. Smith, Jr., of the Taylor, Smith & Taylor Pottery Co., of Chester, W. Va., and including W. E. Wells, of the Homer Laughlin China Co., of East Liverpool, Ohio, and Newell, W. Va., who is chairman of the Labor Committee of the same organization, were in New York, February 4, where at the Biltmore Hotel, a conference with importers and jobbers took place.

It was at the suggestion of the latter group that the conference was held, and the subject given the greatest consideration related to the pending and possible future tariff on imported china and earthenware as specified under "Schedule B."

Many American pottery manufacturers are of the opinion that the old but very satisfactory provisions of the Dingley tariff bill will prove of the greatest benefit to the American pottery interest.

Importers, it has been pointed out, while appearing before the Ways and Means Committee at Washington in opposition to any increase in the tariff on china and earthenware, now realize that they will have to reckon with American pottery manufacturers in future.

A common ground is sought, where both sides will be satisfied, it is related, but those who have been noticing which way the wind has been blowing, know full well that a protective tariff will be put thru soon after the Administration at Washington changes.

When hearings were held before the Ways and Means Committee recently on Schedule "B" those representing importing interests were limited as to time in presenting arguments.

For the presentation of arguments from the American side, the "limit" was forgotten, yet those who talked in favor of protection for American pottery interests did not violate former traditions of presenting facts, truthfully, briefly and then stopping.

* * *

Straw Exorbitantly Expensive

There has been a decline in the packing straw market of late, but it has been so small that it is hardly noticeable. One quotation a few weeks ago was at $11 per ton, and that received later was $10.50, but to both quotations must be added $11.75 freight charges. The straw market even now is the highest the pottery manufacturers have been compelled to pay in years.

* * *

Excellent Pottery Exhibit in Chicago

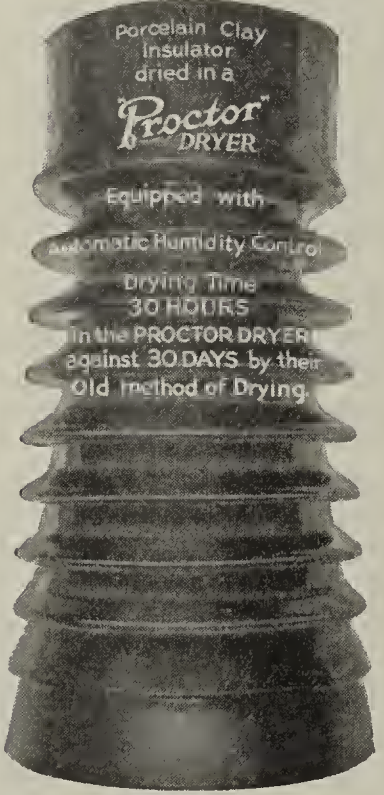
Lovers of pottery in the Chicago district have during the past few weeks had a splendid opportunity to view a beautiful exhibition of ancient and modern pottery at the Chicago Art Institute. Old Chinese and Persian pottery, represented a part of this exhibit, as well as more modern ware, such as Staffordshire and Wedgwood. Italian, Holland and French pottery, the latter represented by Sevres ware, were also shown.

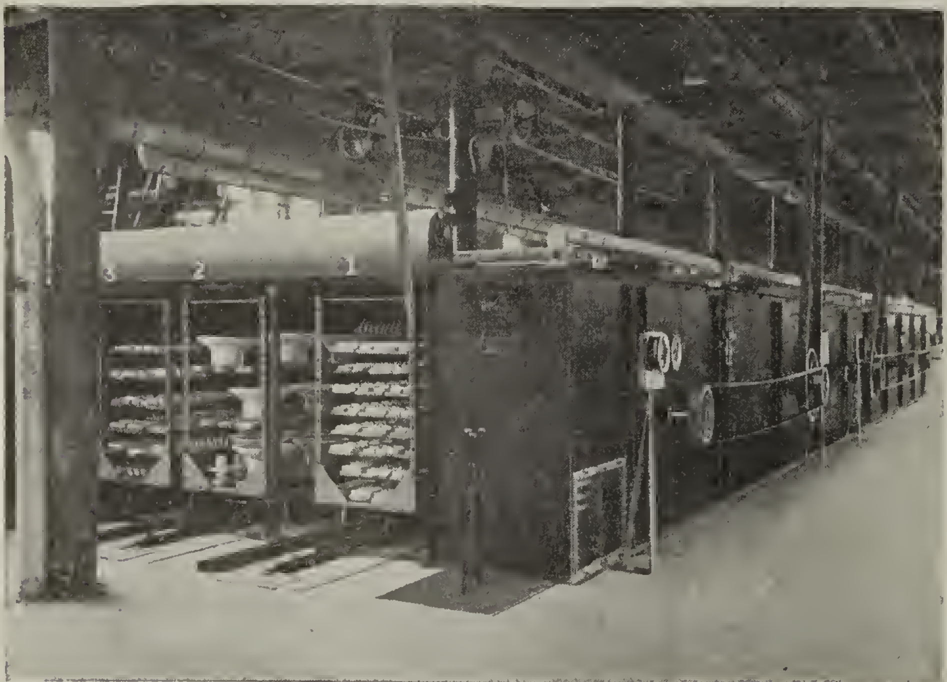
Of particular interest is one large room showing a wide

Drying Porcelain

If you make Electrical Porcelain or Sanitary Ware, drying mechanically by "Proctor" Dryers offers freedom from the difficulties, spoilage and costly, slow-moving operation of even the best of old dry-room methods. And a measure of drying efficiency and economy greater than you ever hoped for. Many installations of "Proctor" Dryers furnish forcible proof of their superior worth to these ends.

As an example, if you could visit the plant shown below (left)—a leading manufactory of vitreous porcelain insulators—they'd tell you first, no doubt, of the perfect uniformity of "Proctor" Drying; then of enormous savings. The 23″ insulator, here shown, is now dried in 30 hours whereas 30 days were required by their former method. That means a 95% saving in time, a most valuable thing to save. Insulators of every description are dried in radically short time, without dunting, cracking or damage of any sort. The orderly routine, the dependable schedule of work, the certainty of desirable results add further to the high score of this machine's value to the user.





of the largest and best known manufacturers of vitreous electric insulators. Equipped with automatic temperature and humidity control "Proctor" Dryers (Tunnel Truck Type) installed in the plant of one and automatic truck moving device. The many difficult shapes and sizes of insulators which are dried perfectly in this machine, are plainly shown.

nd General Ware

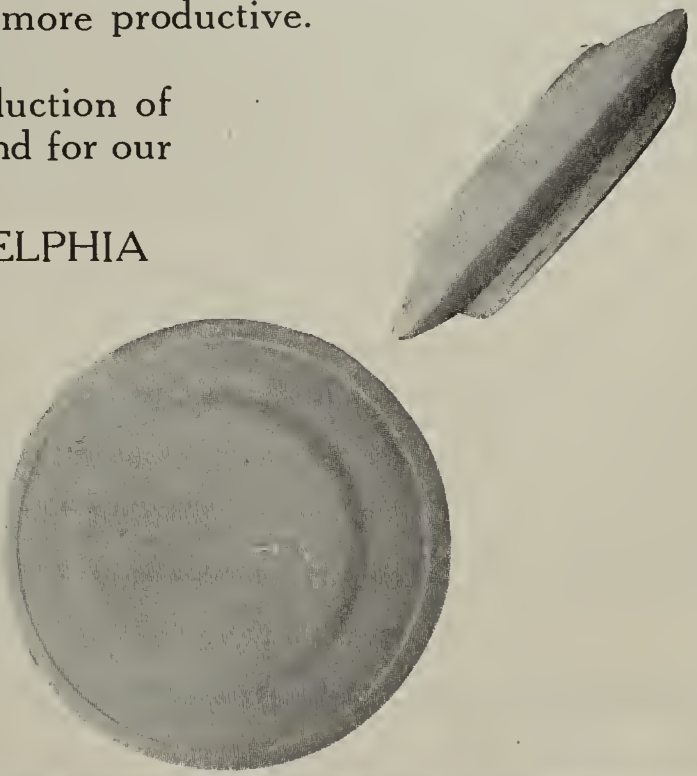
Or, if you make General Ware, get acquainted quickly with the immense advantages of drying automatically by the "Proctor" Automatic Stove Room. The installation shown below (right) serves to exemplify the profitable stimulus to production and improvement over old methods, made by this automatic machine—an efficient, continuous process of drying both the ware and the moulds.

The ware is carried through the dryer directly from the jiggerman to the finishers and the moulds returned to the jiggerman, through a section of the dryer. The ware is dried in 1½ hours—the old method required 5 to 24 hours. Better ware is produced, the result of progressive, uniform drying. There is no dunting, spalling or warping. The moulds are dried every time they are used; they work better and last longer. All the ware made is dried every day. Steam is conserved and floor space made vastly more productive.

Let us give you all the salient facts.

Another proven necessity to the most economical production of General Ware is the "Proctor" Automatic Mangle. Send for our catalogue today.

PROCTOR & SCHWARTZ, INC., PHILADELPHIA



tor"

RYERS

A typical installation of 'Proctor" Automatic Stove Rooms, in the plant of the Iroquois China Co., Syracuse, N. Y. The left view shows the ware being placed on the automatic conveyor by the jiggerman. The view above shows the delivery end, where the dried ware is being removed from the moulds, which are then returned to the jiggerman through a section of the dryer.

and varied collection of Wedgwood pottery belonging to Frank W. Gunsaulus, of Chicago. This exhibit includes besides unusually fine table ware and vases, a large quantity of beautiful cameo ware.

* * *

A. C. S. to Have Good Pottery Representation

On account of the nearness of Columbus, Ohio, to the Eastern Ohio pottery district, more pottery manufacturers and superintendents are expected to attend the annual meeting of the American Ceramic Society from the East Liverpool district than ever before. The folk from that part of the state are especially interested in the decorative, white ware and kiln sessions.

* * *

Receives Watch as Token of Appreciation

When William G. Jackson, western sales manager for the Taylor, Smith & Taylor Pottery Co., of Chester, W. Va., retired from that organization January 31, he was called into the general offices of the company and was presented with a handsome Waltham gold watch. On the watch was this inscription: "W. G. Jackson, from the T. S. & T. Executive Forces, January 29, 1921."

The presentation speech was made by Charles A. Smith, vice-president of the company, and the entire executive staff of the company took part in the ceremony, except President William L. Smith, Sr., who is in Florida.

"I don't know what I'm going to do with this watch," observed Mr. Jackson after it was all over, "after I've been carrying this $12 time-piece all these years."

Mr. Jackson is a stockholder and was a member of the board of directors of the corporation, but has resigned from the board. He will retain his share holdings. He left the Taylor, Smith & Taylor interests to assume the presidency of the Empire China Co., of Los Angeles, Cal., which was formed last fall with a capital stock of $500,000.

* * *

Half-Million Dollar Porcelain Concern

The Western Electrical Porcelain Co., Wilmington, Del., has been organized under state laws with a capital of $550,000 to manufacture vitreous and semi-vitreous electrical porcelain specialties. The local incorporators are: T. L. Croteau, M. A. Bruce and S. E. Dill.

* * *

Repairing All Glost Kilns

The Summit China Co., at Akron, Ohio, is being operated on a full time basis with the exception of the clay shop, which is experiencing a scarcity of boards. All glost kilns at this plant are being repaired, new bottoms being built in each one. On account of the volume of new business the firm is receiving, steady operations are assured for months to come. The company is stocking up on coal, as this fuel is used for all kiln firing.

* * *

Searching for Good Site to Build Pottery

A site for a pottery factory is being sought by the Pope Pottery Co. of Ohio, and the Long Beach (Cal.) Chamber of Commerce has appealed to the daily press of that vicinity for information as to a suitable site for the proposed new industry. The following requirements are specified by the company: Size, 300x150 feet; rail transportation; a gas main not less than four inches in diameter; water, a sewer and power. The company plans to take immediate possession on finding a suitable location in California.

* * *

Operation Will Begin Soon

An organization is being assembled to operate the three-kiln pottery at Chittenango, N. Y., which was recently taken over by Allen W. Surles and several business associates of East Liverpool, Ohio. The majority of workers will be obtained from the local Chittenango district, altho major positions will be cared for by experienced workers from the East Liverpool territory. A considerable amount of clay and fuel has been delivered, and the plant is expected to be placed in operation very soon. In addition to a line of tea pots, there will be some production of white lined cooking ware made from a native body.

* * *

Three New Harrop Tunnel Kilns

General Porcelain Co., Parkersburg, W. Va., has erected a continuous tunnel kiln designed by Carl B. Harrop, consulting engineer, for the company's special requirements. The kiln is 323 feet long and is to use either natural gas or oil fuel. Further provision is made for the use of solid fuel at some future time.

Two other Harrop tunnel kilns have recently been put into operation by the Mt. Clemens (Mich.) Pottery Co., one for bisque ware and the other for glost. These kilns are both fired with coal and stand end to end in an exceptionally fine factory building over eight hundred feet long.

* * *

Making Wide Variety of Pottery

Claiming that what will be one of California's largest industries has been started, the Standard Pottery Co., Los Angeles, recently commenced operations manufacturing hotel chinaware, porcelain table, bath, lavatory and toilet wares. Riverside county native clays and Nevada china clays will be used and newly invented machinery for refining clays is being installed. Arrangements are also under way to add a series of high grade porcelain and enamel insulating devices for electrical installations, for which there is a large Western market, and which now must all be shipped in from Eastern points. Present operations make the first actual commercial production of table chinaware on the Pacific coast.

* * *

Flint and Spar Company to Build

The Trenton Flint & Spar Co., Trenton, N. J., will soon commence the erection of a new plant on Marion Street, to consist of a one-story factory, 40x90 feet, and boiler house, 20x40 feet. The construction will be arranged by day labor. R. H. Waimford is president.

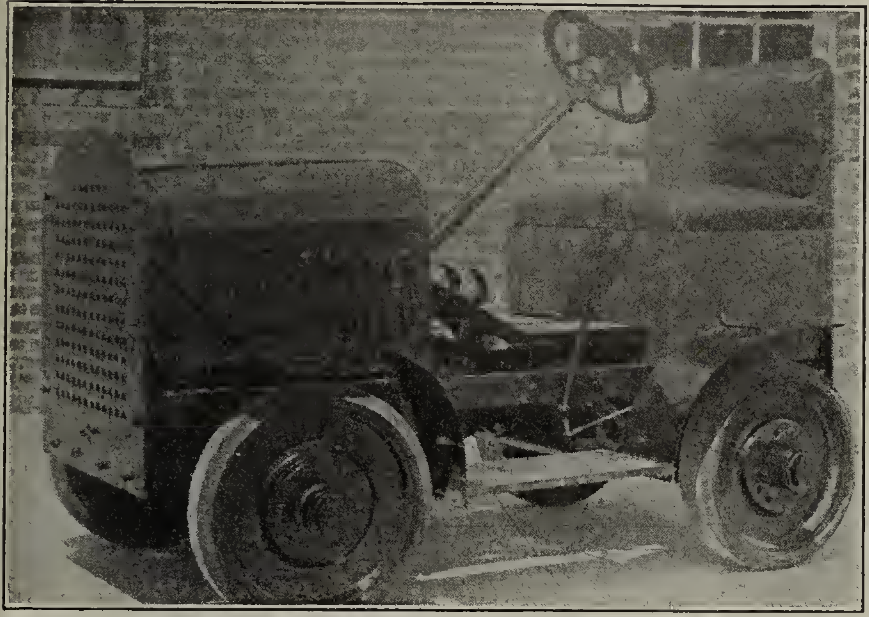
* * *

Makes "Salad" Line Specialty

On account of the large variety of salads featured by the D. E. McNicol Pottery Co., at its Clarksburg, W. Va., plant, the factory is now being called the "salad house of America." The pottery is under the sales management of Jack Patterson, who was for many years a buyer. Over 200 different decorations and treatments are shown in the salad line this season.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost


Truck Tractor Equipped with a Gasoline Motor. Its Compactness and Short Wheel Base Are Valuable Features.

A Novel Use for the Truck Tractor Is to Haul Clay Cars. This Is a New Motive Power for Transporting Clay to the Plant.

Truck Tractor Hauls Clay Cars

The lot has fallen to a California brick maker to find a novel use for a truck tractor. This type of equipment has been gaining increased popularity on pottery and brick plants and its utility has been well illustrated by the many varied uses for which it has been adapted.

The small tractor shown in the accompanying photos is rendering very favorable service at a California brick plant, we are told, by its varied uses. One of the interesting services which it is giving is the towing of cars loaded with clay from the clay deposits to the factory. Three loaded cars are towed at each trip. Each dump car has a capacity of one yard of clay. The tractor also tows all the empty cars from the brick plant back to the clay pit. The method of operation is as follows:

The tractor tows the cars simply by traveling along side the narrow gauge track upon which the cars operate, being connected to the cars by means of a steel cable. The cable is connected to the front of the last car. If the tractor is needed in a hurry for some other work around the plant, the cable can be quickly unhooked from the dump cars and the tractor is ready for whatever service it is desired.

The machine of its own weight tows a five to six ton load on four wheels with little difficulty. If it is desired to do heavier work than this, there is a ballast box under the seat so that additional weight can be added to the tractor just ahead of the wheels to gain pulling power.

The tractor is equipped with gasoline motor and is very compact, being able to turn in a circle of a very small diameter. This makes spots around the kilns and other places on the pottery and clay plant, easily accessible.

The truck is provided with a heavy perforated steel bumper plate in the front which is sufficiently reinforced to protect the radiator under the heaviest bump. Perhaps this novel use for the truck tractor will suggest other practical utilitarian uses.

How to Proceed With Kiln Temperature During Dehydration Stage

When watersmoking is completed the excess air which is permitted to pass thru the kiln during that period to sweep out the moisture, can be cut down and the heat raised quite rapidly. In fact, it is almost impossible with many clays to raise the temperature too fast during the dehydration stage, altho, of course, it might be done. With large sewer pipe or drain tile made of a dense clay, or any other ware formed with dense plastic clay, trouble may occur if the heating is accomplished too rapidly, and of course, if the clay contains considerable volatile combustible matter, the temperature must be raised slowly. The chemical water is being given off at this time but the clay is quite porous and the water is generated slowly, so that there is little danger of popping due to steam.

From observation of brick kilns it has been found that shale brick were satisfactorily dehydrated in thirty-six hours, and in others in forty-eight hours, after the watersmoking period was completed. It is not advisable to linger longer than this in doing this work. From the standpoint of economy it is better to advance as soon as possible to the temperature at which oxidation takes place most rapidly.

FIRE BRICK
FOR KILNS
RIGHT QUALITY

Write us and we will tell you about them and submit prices

The Evans Builders Co.

First National Bank Bldg., Cincinnati, Ohio
921 Fifteenth St., N. W. Washington, D. C.

Boss Ten-Hour Dryer

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

J. C. Boss Engineering Co.
Elkhart, Indiana

EFFICIENCY AND ECONOMY are essential in any clay plant—large or small.
DO YOU PRACTICE BOTH IN THE HAULING OF YOUR WARE?
YOU SHOULD—AND there is no better way to do it than by using CONCO CARS.
Their sturdy build and perfect design makes them truly the best cars for hauling clay products.

Pulleys, Gears, Hoists
Let us send you our catalog.

H. D. CONKEY & CO.
MENDOTA, ILLINOIS

It Makes No Difference What Your Requirements May Be—We Have the Car for Your Needs

Dryer cars of any size or type. Transfer cars turntables, wheel barrows, wheels.

Send us your requirements and let us figure for you. *No* obligation whatever.

PETTIGREW FOUNDRY COMPANY
HARVEY, ILLINOIS

QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Wants Serviceable Grinding Machine

955. *Ohio.—Where can we get a serviceable grinding machine for use on wet clay? We have some stone varying from pea to pumpkin size and are wondering whether a wet grinder would be advisable.*

With regard to your problem of removing the stones from your clay, have you ever thought of using conical rolls? The common brick plants in Chicago find in their clay deposits limestone pieces which range in size from a marble to a pumpkin and their clay is somewhat moist too, since they use the common ordinary surface clay found in that vicinity. Conical rolls are used with considerable success.

* * *

Making Insulating Brick of Fullers Earth

959. *Washington—I have a large deposit of Fuller's earth, and wish to make brick for insulation purposes. Can you give me a formula to make this class of ware?*

If you wish to make a porous brick you may use sawdust with your Fuller's earth, providing it is plastic enough. If it is not plastic enough it may be necessary for you to add some ball clay or other plastic clay to develop the proper plasticity.

On the other hand, should you wish to make an insulating brick, using the Fuller's earth alone, but require a bond, we suggest that you try using sodium silicate which is commonly known as water glass.

* * *

Advantages of Electric Power Over Steam

958. *Illinois.—We are contemplating installing motors in our plant to take the place of our boilers and engines. What are the rates as generally applicable to the clay working industry and is electricity cheaper than steam?*

What is the general practice in installing motors? Do most of the brick makers have direct connection by using small motors to each piece of machinery or do they use one large motor attached to a main drive shaft?

What is the comparison of cost of installation and operation of these two methods?

On most plants it has been found that installation of electric motors and dynamos has resulted in considerable economy over the use of steam power. Its saving varies with each plant, but a 20 per cent. saving is no uncommon one.

The rate for electric power, when purchased from a central station or public utility company varies from four to six cents per kilowatt hour. These figures are for the spring of 1920 and may not hold good under present conditions. An Iowa manufacturer stated at a meeting last year that he used approximately five and one-half pounds of coal per horse power hour, day and night, on a Murray Corliss

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

engine, and later upon purchasing electricity for three cents per kilowatt hour, was saving one cent per kilowatt hour over what it cost to manufacture the power himself. We are quite sure you will not make a mistake by purchasing your power instead of manufacturing it.

The general practice among brick manufacturers is to use the directly connected motors on each piece of machinery. However, if you already have a line shaft, it probably would be more economical for you to install a large motor to drive this line shaft and then drive your various machinery from the line shaft as you have heretofore. This would eliminate considerable equipment, and would also obviate making numerous changes.

As for the comparison of costs between installation of the main drive or line shaft and individual motors, the balance is considerably in favor of the former. Engineers are not agreed as to which is best, the individual drive or the main drive.

The LETTER BOX

A Place Wherein Letters That Have General Interest Are Published and Commented Upon

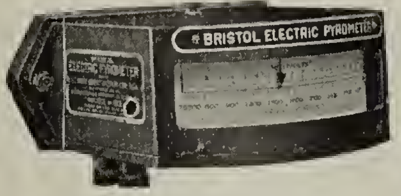
C. B. M. A. Work Is Appreciated

Some time ago a letter was received in the office of *Brick and Clay Record* from James T. Howington, general manager of the Coral Ridge Clay Products Co., Louisville, Ky., outlining some of the benefits and advantages of the Common Brick Manufacturers' Association and its work. The letter follows

"As far as direct benefits go, it is my opinion that the association's promotion campaign has checked the slump in brick demand. It would seem so in our vicinity, at any rate, and this, of course, by itself is a big accomplishment. We have already received some direct benefit from the plan service. Several houses have already been built in Louisville from association plans and we expect to see many more built when the building public becomes more familiar with our plan service.

"The main efforts of the Common Brick Manufacturers' Association are in the direction of increasing the use of brick or in other words, the association is doing primarily sales promotion work. This is sure to be of direct benefit to every common brick manufacturer in the country, but if there should be local markets that are already using all of the common brick that it is possible for those communities to consume, and the manufacturers so fortunately situated do not feel that their local demand can be increased by any amount of sales promotion work, such manufacturers would benefit in supporting the association, just to help their neighbors sell more brick, because the more brick the neighbors sell at home and in their own territory, the less brick they will have left to dump on the already good markets at bargain prices. This is the reason why certain manufacturers, otherwise disposed, should belong to the association."

PYROMETERS FOR THE KILN



See Bulletin AE-291.

BRISTOL'S is the pioneer industrial Pyrometer. They are made to stand up under the stress of daily use. That is the reason Bristol's are well adapted for the Brick Kiln requirements.

THE BRISTOL COMPANY, Waterbury, Conn.

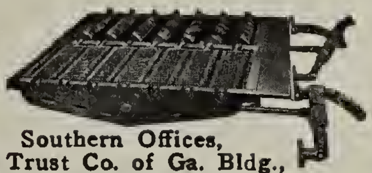
BURN ANY COAL

Never mind the quality; put it up to

CANTON Rocking and Dumping Grates

to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

For Boiler and Kiln Grates



Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.

CANTON GRATE COMPANY
1706 Woodland Avenue,
Canton, Ohio

MANGANESE DIOXIDE

Uniform Physically and Analytically

E. J. LAVINO and COMPANY
(Grinding Plant: Plymouth Meeting, Pa.)
Bullitt Building, Philadelphia, Pa.

Hill Friction Clutches
Collar Oiling Bearings
and
Complete Power Transmission Machinery Equipments

Hill Friction Clutch Pulley
Smith Type
(Patented)

Catalogs upon Request

The Hill Clutch Co.
Cleveland, Ohio
New York Office, 50 Church Street

"CAHCO" Complete Oil Burning Systems

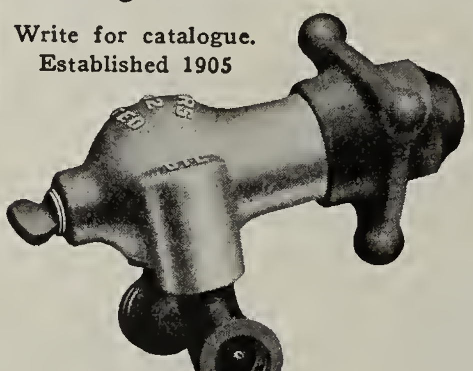
Are installed only after a thoro preliminary study of plant conditions and requirements.

The work is then done in accordance with carefully worked out designs and under expert supervision.

The system, complete in every detail from car unloader to combustion chambers, is placed in operation, tested, final adjustments made and turned over to you ready for CONTINUOUS AND EFFICIENT SERVICE.

Write for full information.

C. A. HOPPIN & COMPANY
ENGINEERS - CONSTRUCTORS
Central National Bank Bldg. PEORIA, ILL.
Monadnock Block CHICAGO, ILL.



Why Use Coal For Fuel?

Write for catalogue.
Established 1905

It is scarce and expensive besides taking longer to burn your ware, and considerable

More Labor—

USE OIL

The Schurs Kiln Burners in your kilns mean—Quick Burns, Better Colors, complete control of fire and

Great Labor Saving

Schurs Oil Burner Company
Los Angeles, Calif. U. S. A.

THE TANK WITH A REPUTATION
Caldwell
Dependable Water Pressure

Caldwell Tubular Towers give you a positive, dependable water supply at a good pressure all year 'round.

They are strong and durable, and yet so simple you can easily erect one yourself. Approved engineering principles throughout and excellent workmanship, backed by thirty years' experience, make them a permanent, satisfactory investment.

Send for Catalogue

W. E. Caldwell Co.
INCORPORATED
2380 Brook St., Louisville, Ky.

Leschen Wire Rope Tramways

The efficiency of the Leschen Aerial Wire Rope Tramways for handling materials has been demonstrated by the actual operation of many installations.

We have had many years of practical experience in this line of work, and shall be glad to discuss your transportation problems with you.

Established 1857

A. LESCHEN & SONS ROPE COMPANY
New York Chicago ST. LOUIS Denver San Francisco

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

---

Death of Joseph V. Ayer

Joseph V. Ayer, aged sixty-five, a clay manufacturer of Brazil, Ind., died January 30 of heart disease, at his winter home at Manatee, Fla. He was ill only a short time. Mr. Ayer was president of the Ayer-McCarel-Reagan Clay Co. at Carbon, north of Brazil. He was born on a farm near Staunton, Ind., in 1856. In 1891 he helped organize the first modern clay plant in the Brazil field. The new company developed the resources of that vicinity in fire clay and shale, and began the manufacture of hollow brick, sewer pipe and other clay products. Mr. Ayer was identified with other business enterprises, and contributed largely to the development and upbuilding of the city.

James M. Wills Dies Suddenly

James M. Wills, for nearly thirty years president and treasurer of the U. S. Stoneware Co., of Akron, Ohio, passed away January 24, at the age of eighty years. Mr. Wills was born in Northampton, England, and came to this country with his parents at the age of nine years. Thirty years ago he took over the controlling interest in the U. S. Stoneware Co., and after considerable research he developed a clay body from which to make chemical stoneware of excellent quality.

Mr. Wills died very suddenly from an attack of heart failure.

Severs Connections After Years of Service

After fifteen years of continuous service with the Harbison-Walker Refractories Co., A. D. Cochran, general superintendent with that firm resigned his position and is now associated with the McFeeley Brick Co., as general superintendent of that company's Bolivar, Pa., plant. This plant makes a high grade of fire brick.

Present Paving Brick Head with Gold Watch

As a token of appreciation for his services as president of the Eastern Paving Brick Manufacturers' Association, the members recently presented Ray L. Winslow with a handsome gold watch, twenty-three jewel, Waltham movement.

Brick Man Made Bank President

S. C. Martin, president of the Kittanning Brick & Fire Clay Co., has been elected director of the Diamond National Bank at Pittsburgh, Pa.

Clay Products Company Organizes

The Karl Martin Co., with a capital stock of $25,000, has been incorporated at Riverside, Cal., and will engage in manufacturing tile, building brick, and other clay products.

Merger of Two California Companies

Consolidation of the McKnight Fire Brick Co., of Porterville, Cal., with the Craycroft Brick Co. and the removal of the former's plant to Fresno, where the output of the combination will include fire brick, common and face brick, building and drain tile, has been announced by Frank J. Craycroft, president of the Fresno company. The combined output of the enlarged business will exceed 75,000 brick per day, in addition to other clay products.

At the present time the Craycroft plant is making common building brick, while the McKnight plant is manufacturing silica, magnesite and chrome brick. With the removal of the plant to Fresno the varieties of brick will be continued with a larger output.

The Berkeley (Cal.) Tile Co. plans to erect a factory at West street and Hearst avenue, there.

Perfecting Machine to Make Adobe Block

A machine for making adobe block or hollow brick is being perfected by the building inspector and others connected with the Santa Barbara, Cal., city government. The machine is designed along original lines, it is said. Instead of tamping the composition into a mold the material is squeezed in, and under pressure becomes a hard compact mass. A waterproofing is put on the outside of the adobe block, and this avoids the need of an outside plaster. For setting the adobe blocks into a wall the same water-proof material is used, and in this way the joints are also made proof against water.

When for the purpose of finish an outside coating of plaster is desired, dovetail keys or bonds are made on the outside surface of the adobe blocks when stripping the forms. For inside plastering a good gypsum plaster is used. The gypsum plaster has a natural affinity for adobe and makes a perfect bond, according to the inventors.

Good, Average Year of Business Expected

Altho the ideas of some of those connected with the brick, clay products and building industry that a very large building boom is about to commence in San Francisco and in other California cities and towns are not shared by the trade in general, the consensus of opinion is that, while no fabulous boom looms, there will be a large amount of legitimate construction on a normal scale and that business will be very good thruout the year 1921.

According to reports money will be cheaper and more plentiful and owners will get the necessary funds with which to build. California is far behind in housing and other buildings, it is conceded generally, and efforts to counteract this condition thru new construction are assured. School work is going ahead and will continue. Millions of dollars worth of bonds are either being floated or are about to be floated, altho in some instances this is retarded because of unsettled money market conditions.

This will be a fairly good year and may be even more than that, declared J. R. Gwynn, manager of the N. Clark & Sons establishment, large San Francisco brick and clay products dealers. The firm has closed on two large jobs in Salt Lake City, Utah.

On the other hand, G. R. Chambers, second vice-president of the Gladding-McBean Co., Lincoln, Cal., predicts a quiet year and does not believe that any noteworthy building boom will eventuate. The large clay products manufacturing firm is operating normally, however, and working to capacity piling up material. Those closest to the situation do not believe that there will be any wage reductions for some time, but say that the labor situation is now well in hand.

Suffers Fire Loss

Fire believed to have been caused by sparks from a passing locomotive, did damage estimated at several hundred dollars at Tower's brick plant, at New Britain, Conn., recently. Racks in the drying shed were destroyed and the

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE

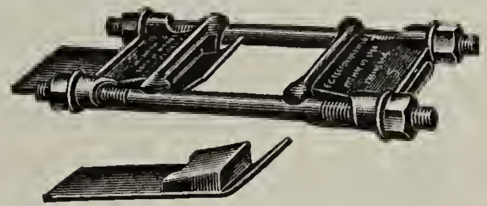
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE

CATALOGS ON REQUEST

THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

TECKTONIUS

Malleable Iron Kiln Band and Plate Fasteners



The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

E. C. TECKTONIUS MFG. CO.
1202 Racine treet RACINE, WISCONSIN

Shovels That Fit the Job

For every kind of shoveling work, there is a Conneaut SPECIAL Shovel specially designed to perform that certain work with maximum efficiency. Try a dozen for 30 days. If you're not satisfied, pay us only what you think they are worth.

YOUR FRIENDS
The Conneaut Shovel Co.
Conneaut, Ohio

CONNEAUT SPECIAL SHOVELS

They Do Produce Results

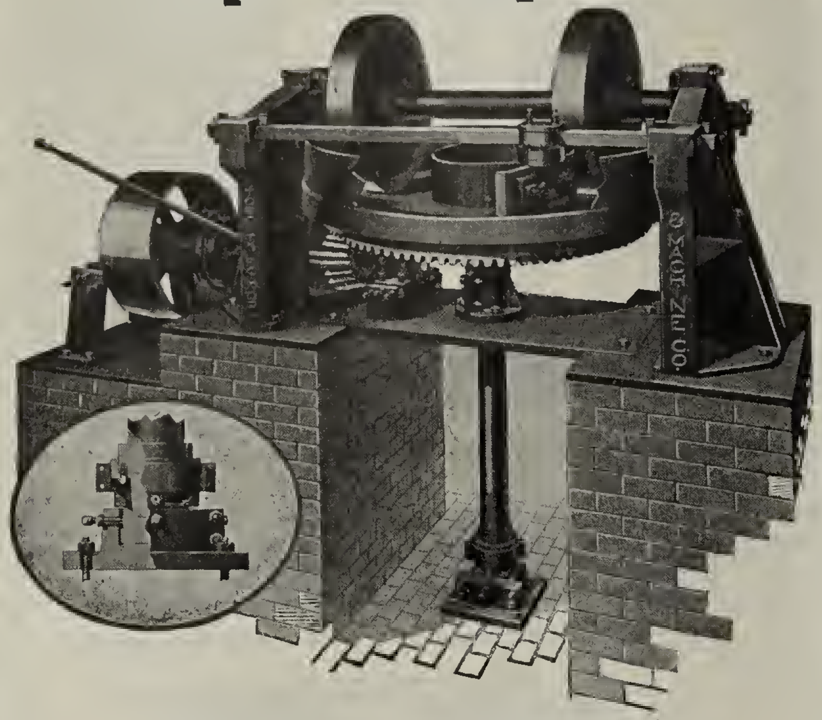
We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

"Dependapans"



Type D 8 Ft. and 9 Ft. Underdriven Wet Pan

WHY BE UNCERTAIN?

Why be uncertain about results? Have them all good.

Let the TORONTO DEPENDAPANS insure your ware. Their rugged construction makes them efficient and economical in service as well as upkeep.

Let us tell you why. Write Today.

Toronto Foundry & Machine Co.
Toronto, Ohio

Already Proven Valuable to You

Thoroughly tested and highly approved by many typical organizations in your own industry. There is conviction in the enthusiastic letters they write us—proof that Stanley Belting will make the same saving in power and belting costs for you.

Has less slip than any other belting (proven). Only one cutting needed within 48 hours to take up stretch. Recommended to you very generally as the best belting made. You will prefer Stanley as thousands of others do, after you have seen it save for you.

Send Now For Details

Don't wait for a belt to break. Write today for names of users, for prices, samples and our interesting book. Excellent delivery facilities. Wire rush orders and inquiries.

Jobbers—Dealers are invited to write us for details on carrying a stock of Stanley Belting to our fast increasing trade in every industry.

STANLEY BELTING CORPORATION
34 So. Clinton Street CHICAGO

shed itself considerably damaged. Efficient work on the part of the New Britain fire department prevented the fire from spreading to other buildings at the plant.

Flay Brick Men for Holding Up Prices

The attitude of brick and cement manufacturers in maintaining present price levels, was severely criticized at a meeting of 153 Connecticut contractors held recently at Waterbury, Conn., for the purpose of perfecting a state organization. Some speakers contended that the high price of brick and other materials was largely responsible for the present slack condition in the building industry and that laborers would be more willing to accept wage cuts if material prices were reduced. H. A. Leonard, of New Haven, was elected president of the organization.

Brick Prices Reduced at Wilmington

James B. Oberly, Wilmington, Del., leading brick manufacturer in this section, has announced a reduction in common brick from $28 to $25 a thousand, delivered on the job. The new price applies to any point of haul within the city limits. This company manufactures a high-grade product and furnishes the bulk of brick in this district.

Plans Building 300,000 Capacity Plant

George Heck, of Chicago is causing considerable stir in the vicinity of San Diego, Cal., where it is understood he is looking for thirty acres of land on which to build a brick and tile plant. He is reported to be the head of a concern in Chicago which turns out 300,000 brick in every eight hour day. He plans to manufacture this number of brick daily in Southern California according to reports.

To Discontinue Business

The Clinton (Ind.) Paving Brick Co. has filed a preliminary certificate of dissolution with the secretary of state here.

Quash Investigation Proceedings

The Steel joint senate resolution, which called for an investigation in Indiana by a legislative committee into the activity of the so-called "building trust," was killed in the senate recently. A motion, offered by Senator Furnas, to postpone the resolution indefinitely, was unanimously adopted. The motion was made after Senator Oscar Ratts, of Paoli, Republican floor leader, attacked the resolution when it was called up on third reading by Senator Steele.

Seventeen Story Building of Brick and Tile

Probably one of the largest building jobs to be begun during the coming year in Indianapolis will be of brick construction. The contract has been awarded and workmen already are wrecking the old buildings on the site for the new home of the National City Bank. The building will be seventeen stories high and will have a gray face brick exterior, over a hollow tile back wall. The skeleton will be of structural steel. Hoggson Brothers, of New York, now are asking for bids on the sub-contracts and materials.

Elects Year's Officers

The Falls Cities Hydraulic Brick Co., which has a plant at Midway, Ind., has elected the following directors: George C. Kopp, Walter McCulloch, Charles A. Leap, Edward Lewman, Clarence Norris, Harry Elliott, Charles T. Hertzsch. Ernest Jacobs, a deputy clerk of the Clark Circuit Court, has been elected secretary. The company, which has sold one or two batches of brick, is preparing to sell $20,000 of stock, making the total sold $50,000. New machinery is to be installed and the plant will resume operation in two months. A quantity of silica sand found under the clay has been sold and below that is building sand and gravel.

Court Action on Coal Rates

Hearing in the case of the William E. Dee Co.'s complaint against the director general of railways, as agent for the Pittsburgh, Cincinnati, Chicago & St. Louis Railway Co., and the Chicago & Eastern Illinois Railway Co., for alleged excessive rates on coal shipments, was held recently before John H. Howell, examiner for the Interstate Commerce Commission, at the Federal building, Indianapolis. The commission is asked to prescribe just and reasonable rates for the future and to award reparation for the time the rates have been in effect.

The hearing of the case was completed and the testimony will be presented to the commission by Examiner Howell, with his report. Mr. Howell heard the complaint of the William E. Dee Co., of Chicago, against the two railway companies the day following.

Great Reduction in Building Costs Unlikely

A forbidding factor in the reduction of construction costs is the high cost of labor, said A. J. Hoffman, of Evansville, Ind., president of the Associated Building Contractors of Indiana, which began its third annual convention recently at the Claypool Hotel, at Evansville, despite the fact that the cost of construction materials had dropped considerably the last year. Mr. Hoffman believes that construction prices will be slower in declining as they did not advance as rapidly as other commodities during the war and it will be a long time before prospective builders will see prices as low as they were in 1914.

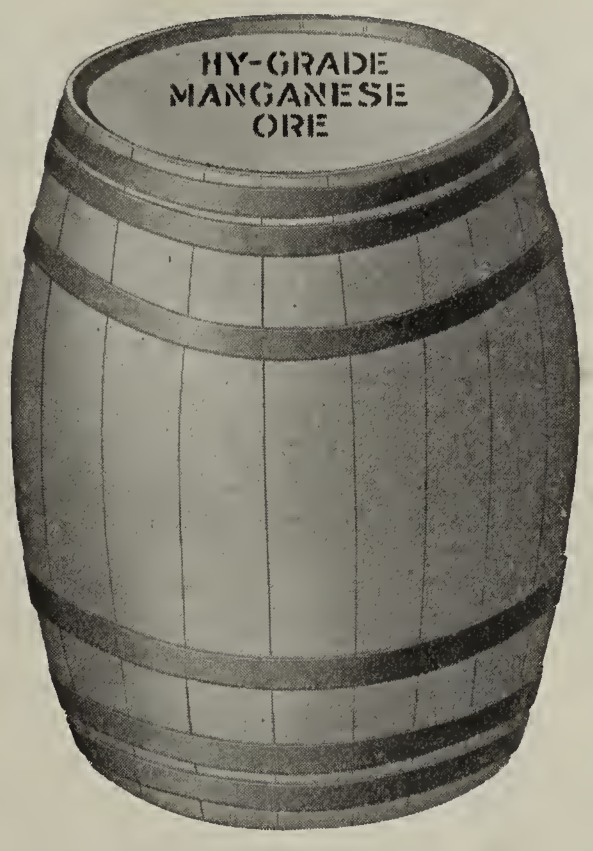
Because the price of lath, cement, lumber and other building materials has dropped appreciably, many people believe construction work should be reduced proportionately. However, with such wages for labor as shown by a series of Indiana wage scales, compiled by the Associated Building Contractors of Indiana, such a thing would be impossible. According to these wage scales, it is shown that bricklaying work costs nearly $1.20 an hour, carpentry, 95 cents an hour and other construction workmen charging proportional prices.

Indiana Highway Laws May Remain Unchanged

It is probable that the Indiana state highway levy of 10 cents, as now provided by law, will not be changed by the present legislature. This became known January 31, when details of a plan, now gathering strong support, were divulged. The success or failure of the plan depends largely on the attitude of Representative James M. Knapp, of Wayne County, who has a bill pending in the house committee on roads which would eliminate the present method of distributing automobile license fees and cause them to revert to the counties, instead of going in a lump sum to the state highway fund for the construction and maintenance of roads.

The new plan provides for the side tracking of the Anderson bill, now pending in the house committee on roads, which would raise the state highway levy from 10 cents to 20 cents on each $100 of taxables. The plan does not include the passage of the Knapp bill.

With both bills out of the way, the law regarding the state levy and the law regarding the distribution of state money would remain unchanged.



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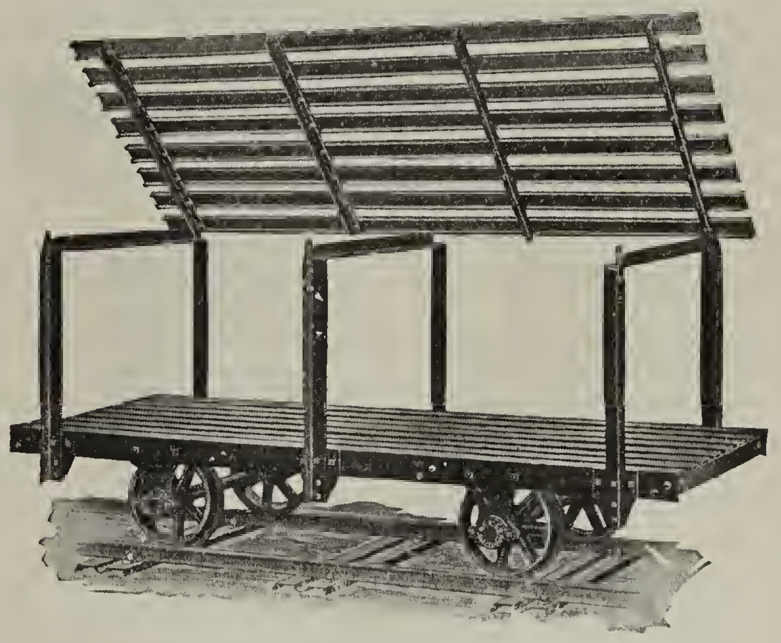
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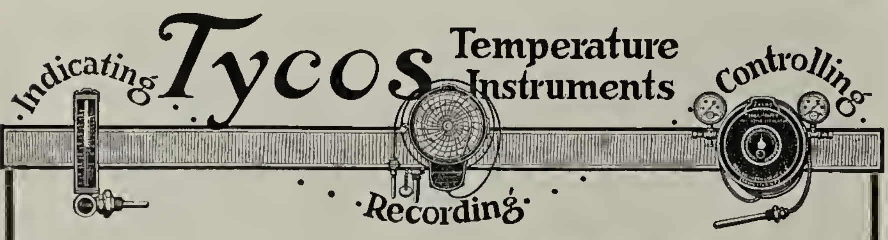

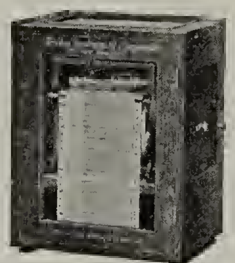

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The 1919 legislature passed a law providing for a 10-cent levy for highway purposes. This was reduced by the state tax board to 3.9 cents when valuations were increased. The 10-cent levy automatically becomes effective again if the present legislature takes no action. The plan now under way contemplates leaving the levy as it now stands.

Will Build New Plant in Spring

The Hampton (Iowa) Brick & Tile Co. will take bids late in the coming spring for the erection of a new local plant for the manufacture of brick and tile products. The main building will be one story, 40 by 200 feet, and will be supplemented by a number of smaller structures. It is estimated to cost about $250,000 including machinery. Claude Smith, Sheffield, Iowa, is the architect for the work. J. C. Powers is secretary.

To Replace Lost Members

Several members will be added to the sales organization of the Louisville (Ky.) Builders' Supply Co., shortly, to make up vacancies caused by resignations a few weeks ago. A. E. Livingston stated he had several men coming on as soon as conditions warranted.

Business Prospects More Sanguine

Business with the Louisville, Ky., clay products houses is on the upgrade. Orders are running a little better, and inquiries are much better. Several plants are still down for repairs, and for accumulation of business before starting up again, and report that they will start with some business in hand.

According to a member of the sales force of one of the larger companies business is better. When asked why, he replied: "You can always tell it. When business is good, the boss slaps you on the back and tells you how good you are. When business is rotten you're a bum. For a time we couldn't do anything right, and he was bawling us out for things that happened two years ago, and just discovering things that were old as the hills. For a few weeks he rode us to death, but he is smiling again, and talking as tho he loved us, so I guess the strain is over."

Century Old Brick Tower to be Razed

One of the landmarks at Baltimore, Md., the old Shot Tower at Fayette and Front Streets, has been sold to the Union Oil Co., by the United Lead Co., and the new owner is said to be arranging for the early razing of the structure. The tower was built of brick in 1828, nearly a century ago, with material of such quality as to be in fine state of preservation, readily to be disposed of for future service. The tower is one of the largest and highest of its kind ever constructed; the top is 234 feet 3 inches from the pavement, and it is estimated that 1,100,000 brick were used for the work. With regular arch brick selling for $25 a thousand locally at the present time, and second-hand material at about $15, the material has an approximate value of $16,500, or about $2,000 more than the purchase price of the property, $14,500, by the oil company. The tower was used for the manufacture of shot until 1892, when the American Shot & Lead Co., owner, was absorbed by the United Lead Co. With more modern methods of production for shot, the tower, shortly after, was abandoned for this purpose. The ground floor of the structure has been used continuously.

Boston Brick Down $3

The price of common brick has declined about $3 in the Boston market and the general quotation now is $27 per thousand delivered on the job. The strike of the building trades workers, however, has tied up virtually all the building operations in the city and immediate vicinity and there is little or no demand for brick or any other building materials.

Present Capacity to be Increased Six Times

The Trenton (N. J.) Zinc & Chemical Co. specializing in the manufacture of zinc oxide for pottery and affiliated ceramic industries, is planning for extensions to increase the production from 2,000,000 pounds to 12,000,000 pounds a year. A stock issue of $650,000 is being arranged to provide funds for the expansion. The company is headed by a number of well-known men in local ceramic lines, including Frederick F. Katzenbach and Edward L. Bullock, of the Katzenbach & Bullock Co.; Edward B. Fulper, of the Fulper Pottery Co., Flemington, N. J.; Robert F. McGrory and Max Movshocitz.

To Extend Clay Mining Operations

The General Chemical Co., New York City, operating clay properties at Gerald, Mo., is planning to open up another mine in this district early in the spring, making the fourth mine in operation here.

Fiske & Co. Leases New Office Space

Fiske & Co., Inc., of New York City, manufacturers of high-grade face brick, have leased the top floor of the Larimore Building, for new local headquarters. The lease covers a period of five years, with annual rental of about $6,500.

Will Operate Clay Mines

Hammill & Gillespie, Inc., New York City, has been incorporated under Delaware laws with a capital of $500,000 to operate clay mines and deal in clays of all kinds. The company is well known in the trade and has been specializing in imported and other clays for the ceramic and paper-making trades. The new organization is perfected for general expansion. The incorporators are given as Hilliard M. Gillespie, William D. Hart and Frederick H. Stokes.

Still Believes in Active Spring Building

That business in the Akron, Ohio, district is for the first time in many months, showing improvement is indicated by a statement made this week by D. J. Osborne, general manager of the Robinson Clay Products Co., largest manufacturers of clay products in the Akron district. He said that more business came to his company thru the mails this week than in any previous week for many months. He is optimistic as to the future for spring building and declared that his company has a good stock of all building materials on hand and ready for immediate delivery. The Robinson Clay Products Co.'s activities extend thruout eastern Ohio and western Pennsylvania. Ohio plants are located at Dover, Akron, Midvale, Malvern and Urichsville, Ohio.

Common Brick Market Picking Up

A slightly improved demand for common brick is noted in central Ohio territory. In fact, there is a decided strengthening of the market, altho prices are unchanged from the previous fortnight. Sand mold brick are selling at $20 delivered on the job, while shale brick are quoted at $22.50. The supply of common brick is adequate for all needs and few are being shipped in at present. Common brick plants are getting under headway and many are running around capacity, while others are making necessary repairs to get under operation. Prospects for the common brick market are rather bright in comparison with conditions a month ago.

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Resume Operations

The Lisbon, Ohio, plant of the Vitrified Products Co., formerly known as the American Sewer Pipe Co., resumed work recently with almost a normal force.

Expects to Start in March

According to present plans, brick and sewer pipe plants in the New Philadelphia, Ohio, territory will resume operations in full on or about March 1. Some of the plants are either idle or else working on part time with reduced forces.

Employes Return to Work

Employes of the Dover Fire Brick Co., New Philadelphia, Ohio, which has been standing idle for several weeks, resumed work this week. A new clay mixing machine has been installed. It is said that other plants, which are on a reduced production basis, may resume full time March 1.

New Plant will Operate Soon

The Franklin Brick & Tile Co., of Columbus, Ohio, will put the new hollow tile plant at Taylors Station in operation in about four weeks. The building has been finished for some time and a large part of the machinery has been installed. The plant will start out with a capacity of 100 tons daily.

Many Inquiries But Few Orders

The Hocking Valley Brick Co., of Columbus, Ohio, makers of hollow tile and pavers, reports a larger number of inquiries with orders still slow. Prospective purchasers are still playing a waiting game. M. M. Morrow, sales manager of the company, recently returned from a trip thru parts of Michigan and northwestern Ohio.

Report of Year's Activities Good

The former board of directors was re-elected at the annual stockholders' meeting of the Ironclay Brick Co., Columbus, Ohio, held late in January. Reports for the year were very good, and prospects for 1921 are believed to be bright. W. D. Brickell is president and treasurer; J. M. Adams, secretary and general manager, and David Lehman, assistant manager.

Would Exempt Homes from Taxes

Designed to stimulate home building, Senator Sparks has introduced a bill in the Ohio legislature to exempt from taxation for a period of five years homes built between the time of the passage of the bill and December 31, 1921. The author admitted that the bill was probably unconstitutional but said he hoped it would lead to some sort of aid in home building.

Elects 1921 Officers

At a meeting of the stockholders of the Kenton (Ohio) Brick & Tile Co., the following directors were elected, John C. Jordan, Edward Schindewolf, G. W. Schindewolf, C. M. Cessna, and E. J. Stickle. The directors in turn elected the officers, president, John C. Jordan; vice-president, Edward Schindewolf; secretary-treasurer, G. W. Schindewolf.

Building Activity in Columbus

Prospects for building in Columbus, Ohio, and central Ohio territory are becoming brighter as the spring approaches. Stimulated by the continued mild weather, architects and contractors are busy figuring on plans for new structures, many of which are dwellings. It is believed that there are fully 100 dwellings in Columbus and its suburbs being projected and a large proportion will undoubtedly develop into realities.

More Brick Roads in Ohio

Bids will be opened February 25 by the Ohio Highway Department for a dozen or more improvement jobs in various counties. It is the first letting under the new Ohio Highway Commissioner, L. C. Herrick. Brick paving is optional in a job in Clark county of 6.216 miles; compulsory on a stretch of 1,000 feet in Hamilton county; compulsory on a stretch of 1.987 miles in Holmes county, and also specified on a stretch of 1.997 miles in Scioto county.

Ohio Paving Brick Men Discuss Events

The Ohio Paving Brick Manufacturers' Association held a meeting at the headquarters of the organization in Columbus, February 10, to discuss conditions thruout the state. Attending the meeting were J. L. Murphy, of Nelsonville; H. C. Moatz, Cleveland; C. C. Blair, Canton; F. L. Maning, Portsmouth, and Walter McKeen, Zanesville. Another field man was named in the person of George Myers ,who will later be assigned to a definite territory. According to J. R. Marker, chief engineer, prospects for brick paving in the spring are getting better week by week.

Shut Down to Make Replacements

The Dover Fire Brick Co.'s plant at Parrall, Ohio, was shut down recently for replacement of soft mud machines. Twenty-five employes are still working. They are assigned to repair and construction work. Last week, brick and clay workers in the Strasburg field were cut in wages, from forty-eight to forty cents an hour. The ten-hour day schedule was not reduced. The Dover Fire Brick plant is the only one in the field not working at the present time. In the Uhrichsville, Ohio, field wages were not cut, the work day being reduced from ten to nine hours.

Predicts Active Building

Emmet Howard, manager of the Columbus Fire & Face Brick Co., of Columbus, Ohio, returned recently from a business trip to New York City, Jersey City, Philadelphia and Baltimore, where he looked over building conditions. He finds a much better feeling in building circles generally, and predicts a rather active demand. Just how soon this demand will open is a question, and it is believed it might be later than usual. Mr. Howard reports a lot of building projects are being worked out during the winter months, many of which will undoubtedly go forward when warm weather arrives.

Orders Increase

The Shawnee plant of the Claycraft Brick Co., of Columbus, Ohio, is in operation, according to sales manager W. T. Matthews. The other plant, located at Groveport, will be put into operation in the near future as necessary repairs have been concluded. Mr. Matthews reports an increase in the orders booked, as one order for 200,000 brick was received from Chicago. He is very optimistic of the future and believes that there will be a rather early opening of the building season.

Mr. Matthews left recently on an extended trip thru the south. He will touch New Orleans, Jacksonville, Atlanta, Savannah, Chattanooga and other points.

To Build Homes for Individuals ......

The housing program for Cleveland, Ohio, during 1921 will be elaborated upon over that of 1920, according to announcement this week by Bainbridge Cowell, director of the Cleveland Housing Corporation. This year houses for individual lot owners will be built. Last year activities were confined to group housing for employes in industrial establishments,

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Of Every Description

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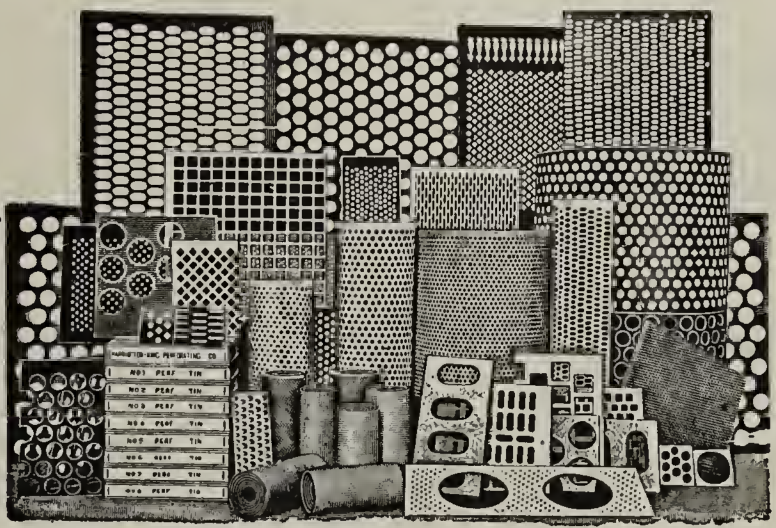

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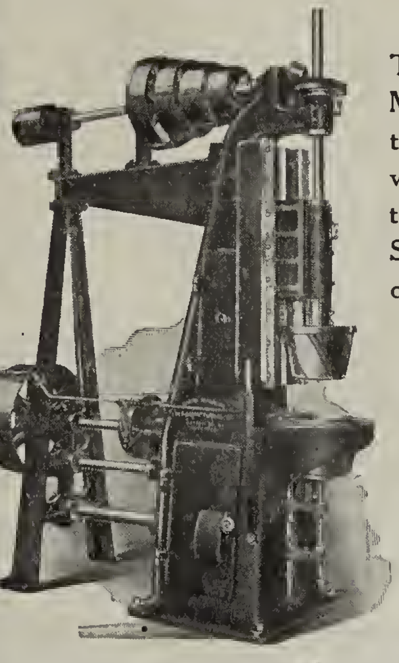

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The first thing a careful motorist usually does after he stops his engine on a zero night is to blanket the radiator. Unknowingly, he does that for the same reason that the carefully thinking engineer blankets his ceramic kilns with SIL-O-CEL—namely to prevent heat radiation.

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Insulation with SIL-O-CEL has conclusively proven its ability to keep more heat units working out of a certain amount of fuel. It means a more evenly heated Kiln from less fuel. Our booklet Y5A will give detailed data. Send for a copy.

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Write today for information concerning all MARION EQUIPMENT for clay plants.

No obligation whatever.

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officials of which have subscribed to stock in the corporation. An average drop of fifteen per cent. has been figured in building costs, according to Mr. Cowell, and this will have considerable influence in increasing the housing production this year it is believed by corporation officials.

Enlarging Works to Meet Increased Business

The Duro Brick Co., Akron, Ohio, at its annual meeting recently, elected directors and officers and decided to enlarge its plant to meet expansion of business. G. R. James was elected president; C. F. Franklin, vice-president; L. S. Meyers, treasurer, and N. J. Long, secretary. The plant recently resumed operations after being idle several weeks. The board of directors was enlarged to ten members, including: L. S. Meyers, M. S. Long, T. W. Kimber, W. W. Shear, George White, of Wadsworth, Ohio; George R. James, Cuyahoga Falls, Ohio; O. A. Alspaugh, A. A. Hilkert and C. F. Franklin.

Spends Large Sum Modernizing Plant

It is announced by the Consolidated Clay & Brick Co., with offices at Canton, Ohio, and plants in Malvern and Corning, Ohio, that almost a quarter of a million dollars was spent in improvements the past six months on its No. 2 plant at Corning, Ohio. Gale M. French, of Canton, general manager of the plant, announces that all steam-driven machinery has been replaced with electric and more modern equipment. Continous kilns are now in use and the daily capacity is never less than 110 tons. All sizes of hollow block are manufactured. The plant is working capacity and indications are that it will continue to operate on full time until at least the middle of summer.

Re-elects Old Officers

The annual stockholders' meeting of the General Fireproofing Co., Youngstown, Ohio, held recently, resulted in the re-election of directors as follows: M. L. Arms, W. H. Foster, C. H. Booth, J. T. Harrington, W. P. Arms, A. P. White, and S. S. French. In the reorganization of the board, retiring officers also were reelected as follows: Chairman, M. L. Arms; president, W. H. Foster; vice-president and general manager, S. S. French; secretary, R. M. Bell. Stockholders were informed that business is quiet at this time, but that prospects are good for a revival after the first quarter. Reports from the company indicate that about 65 per cent. operations are being maintained. Directors at a meeting declared the preferred stock dividend of seven per cent. for the current year, payable the first of each calendar quarter. Common stock dividend action will be taken from quarter to quarter as before.

Brick Men Inspect New Plant

Leo A. Krueger, head of the Cleveland (Ohio) Clay Products Co., was host to Cleveland brick dealers in a junket to Alliance, Ohio, where the new $400,000 plant of the Alliance Brick Co. was inspected. Members who took the trip included Alvin Pryor, Goff-Kirby Co.; Will Haag, Edgewater Lumber Co.; E. G. Barnett, Geist Building Material Co.; James Walters, Akron Sewer Pipe Co.; M. M. Goldman, Builders' Supply & Fuel Co.

Before the party left they were introduced to new offices in the Scofield Building, which will be occupied by the Cleveland Clay Products Co. About twice as much space will be available over the original quarters, and show rooms, with plenty of new kinds of brick, will be a feature. All the members agreed that business must be pretty good for Messrs. Krueger, et al. to stand the high rent and then some in the well-known Scofield Building.

Will Move to New Location Soon

The Gaddis-Harrison Brick Co., of Columbus, Ohio, has taken a 99-year lease on a $150,000 property on the southwest corner of Broad and Fifth streets, which will be the future home of this hustling brick and clay products agency. It contains a large dwelling house of rather good architecture and was the homestead of one of the old Columbus residents. The purchasers will start soon to remodel the dwelling to suit its needs.

The outside will be faced with face brick and terra cotta, making an exceptionally fine looking exterior. The Gaddis-Harrison Brick Co. has a large distribution business in clay products with a branch at Dayton, under the charge of R. C. Harrison. When the new building will be occupied depends on the expiration of the present lease on offices in the Brunson Building.

Charles Harrison believes that as soon as people get to realize that prices have reached the bottom and that now is the time to build, orders will be coming in. The spring building season will be a little late in opening, but when it starts things are expected to come along quite nicely. Architects are busy on plans for new buildings, and consequently prospects are exceedingly bright.

Fire Damages Pennsylvania Plant

The devastating hand of fire reached out recently and partly destroyed the plant of the River Stone & Brick Co., Point Marion, Pa. The loss is estimated at about $5,000.

New Company to Make Brick

The United Shale Brick Co., Ephrata, Pa., has been organized under state laws with a capital of $100,000 to manufacture building brick. George W. Kinzer is treasurer of the company.

Re-elect Old Officers

At the annual meeting of the Hazelton (Pa.) Brick Co. the old board of directors were renamed and Carl Jacobs was elected as an additional member. The reports show the company to have had a very successful season.

Harbison-Walker Declares Dividend

The Harbison-Walker Refractories Co., Pittsburgh, Pa., has declared its regular quarterly dividend of $1.50 a share on both common and preferred stocks. The first noted is payable on March 1, and that on the preferred stock on April 19.

Will Build Addition to Crushing Room

Officials of the Harrisburg Shale Brick Co., are planning to build an addition to the crushing room. The company wishes to have everything in readiness for the building boom which is expected to materialize soon.

Active Building Will Mean Opening of Plant

If building conditions and material prices permit the opening of a season of building activity, it is expected that the demand for brick in Waynesburg, Pa., will be such as to justify the opening of the unused brick plant there. A great amount of local building is anticipated.

Coal and Clay Land Changes Hands in Big Deal

Approximately 3,000 acres of coal and clay land are involved in a deal whereby the Seger Fuel Co., of Ligonier, Pa., acquires the holdings of the Kirk Dunn Coal Co., at West Point, north of Canton, Ohio. The consideration is said to have been $1,000,000 in addition to the holdings ob-

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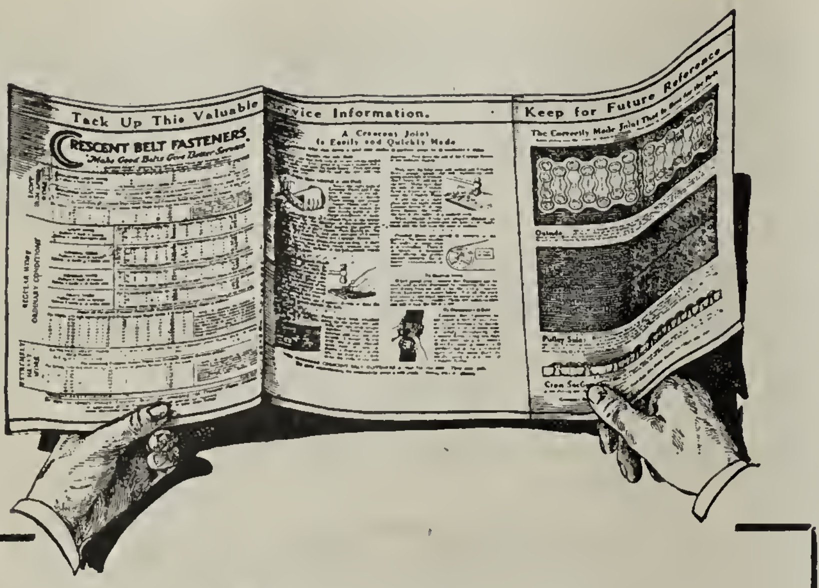
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BELT FASTENERS

tained from the Kirk Dunn company, which has operated mines at West Point for several years. The Seger company has obtained by outright purchase or lease 5,000 acres of coal property in three townships in Columbiana County and the village of Salineville. The company has assumed control of its new holdings. A. C. Tice, of Canton, Ohio, was instrumental in consummating the deal.

Brick Company Receives Large Order

The Hazelton (Pa.) Brick Co. is arranging to continue production at its plant thruout the winter. Recent orders for material from New York total close to 2,000,000 brick, and the outlook is good for added sales at an early date. This is one of the most progressive brick companies in this section and recently made extensions in its plant for increased manufacture.

Small Concern Modernizing Plant

At the E. J. Lavina Co. brick plant at Plymouth Meeting, Pa., a new and modern brick-making machine is being installed. The machine will have a capacity of 12,000 brick per day. Other modern devices for the purpose of meeting increased business have been arranged for. The plant has been electrified and in general is being put on an entirely efficient basis.

Little Building in Pittsburgh

The new year has brought little change thus far to the brick, clay and affiliated industries in the Pittsburgh district. The market practically is in a chaotic condition, prices having a wide range. Even low prices have not induced buying to amount to anything. One brick manufacturer is reported to have offered brick at $5 a thousand with few orders being placed.

Hollow tile is in little demand and there are few buyers. Prices are being quoted at from $88 to $114. Many plants have shut down, declaring that to sell their products at lower prices will mean a loss. A few are accepting a slight loss and are continuing their plants, even tho they must sell their products at a below-production cost price.

Pays More for Coal; Cut Wages; Reduces Price

The Glen-Gery Brick Co., Reading, Pa., recently announced a reduction of $2 per thousand in the price of its brick which now brings it down to $19 a thousand. This reduction has been made possible because of the fifteen to twenty per cent. reduction in wages of the working force. However, the company is still obliged to pay $1.30 per ton more for coal over the 1920 contract price because of increased freight charge.

One of the representatives of the firm declared that the indications are that all of the company's units will resume operation on a capacity basis about the middle of March to take care of the building boom expected to materialize in spring.

"The increase in the selling price of hard brick during the past six years was from $7.50 and $8 per thousand to $19 per thousand. On the other hand, the increase in the price of bituminous coal, delivered to the local factory, was from $2.85 per ton to $7.40 per ton. Six years ago the company paid $1.25 per day for labor. Today, after the recent reduction, it is paying $3.50 and $4 per day.

"And these two items constitute 95 per cent. of the cost of manufacturing brick. In other words, while our cost of manufacturing has about tripled within the last six years our selling price on brick has but little more than doubled," said a member of the firm.

"To make the increase in the selling price of brick even with the cost price to us hard brick should sell today for from $23 to $24 per thousand. We can see no reduction in the price of labor and coal within the next year; in fact, contract coal for 1921 is higher than for 1920. And until these two important items do come down there can be no appreciable drop in the price of brick.

"We make 200,000 brick every day that the factories are on full time, and if the brick so made were used for house work they would build eight good-sized houses every day. Our kiln at Wyomissing is the largest brick-burning kiln in the world. It is a combination kiln and dryer and always contains 2,500,000 brick.

"Our bills for electric power amount to $25,000 per year, besides the boilers we have under fire of nearly 1,000 horsepower.

"We consume 20,000 tons of coal per year. This means that during 1921, on account of the increased price, we will be obliged to pay $26,000 more for coal than we paid last year.

"We consume 600 tons of raw shale per day. We have enough railroad track around our plants to build a railroad 20 miles long, and nearly 100,000 feet of pipe.

"Our four excavating shovels represent an investment of nearly $30,000. We have approximately 1,000 double-deck steel drying cars with a capacity of 600 brick per car. Our plants could not be duplicated for less than $1,500,000."

Building Trades Refuse Wage Reductions

Accepted as a forerunner of the action to be taken by other trades unions, the bricklayers' union, No. 2, of the Bricklayers', Masons' and Plasterers' International Union, last week at a conference with members of the Brick Contractors' Association of Pittsburgh, flatly refused to accept a reduction in wages.

The proposition was put up to the building craftsmen thru their representatives January 12 and they were asked to lay the matter before the membership of the various unions. Representatives of the bricklayers announced at the conference recently that the membership of the bricklayers' union decided that they were going as far as they possibly could when they did not ask for a further increase in wages. Among other things the bricklayers cited the great jump rents are taking all over this section.

The bricklayers then said they were ready to sign up for another year at the present wages, and, if possible, under the same working conditions. The contractors said they were not ready. Bricklayers' wages now are $12 for an eight-hour day, with double time for all overtime work, afternoon on Saturdays, Sundays and holidays.

The committee of the brick contractors, composed of S. P. Trimble, John C. Schreiner and L. W. Spear, met P. W. Powers, president, Charles Rokoph, business agent, Harry Hays, secretary, and Thomas Manning, representing the bricklayers' local.

E. M. Tate, secretary of the Building Construction Employers' Association with the brick contractors' committee, said they had no comment to make. No other meetings are scheduled.

Has Orders Enough To Keep Busy

F. R. Thomas Clay Products Co., Memphis, Tenn., reports January activities good and considerable contracts on hand to keep them occupied until the active spring season opens, which, with the prevailing mild weather conditions, looks to be earlier than usual this year.

1920 Shows Less Building Than 1919

The recent year's compilation of building figures for Memphis has been made public and shows a slump under 1919. Building permits for 1920 total $6,715,183 while in 1919 they were $7,518,890. This shows a loss of $803,767 for 1920 against 1919 figures. December showed the largest slump of any month in 1920. There were 2,536 permits issued during that year.

Applying Sealrite to kiln crown

SAVE COAL

Fifteen million tons of coal are used annually by the clay industries.

Don't you want to save a portion of this vast amount in your plant? Wherever a single crack appears in a kiln crown, there is air infiltration and loss of heat—and a waste of coal. Cover your kiln crowns with

SEALRITE

and get your money's worth of all fuel consumed. SEALRITE is elastic and durable, and will not crack. The illustration above shows you how easily SEALRITE can be applied to a kiln crown—any man can put it on who can use a plasterer's trowel.

Coat your boiler settings also with SEALRITE, and so improve combustion and prevent loss of heat up the chimney, and fuel waste.

Let us send you enough SEALRITE today to cover one kiln crown and thus prove to you the truth of our statements.

COATRITE Protects all surfaces. Paint your dryers, dryer cars, and pipes with it. Ask for free sample.

Improved boiler metal treatment in liquid form. Order a barrel today. Money back if not satisfied. **SCALINE**

KINGSBVRY
CORPORATION 1819 KINGSBVRY ST CHICAGO ILL

IT IS TRUE THAT SMALL CLAY PLANTS DO NOT HAVE A LARGE ENOUGH OUTPUT TO WARRANT HEAVY, HIGH PRICED EXCAVATING MACHINERY—BUT THAT DOES NOT PREVENT THEM FROM EMPLOYING LABOR SAVING DEVICES SUCH AS THE ONE MAN EXCAVATOR.

This excavator is built especially for the small clay plant. The plant making from 25 to 100,000 brick per day. It is light, economical, durable, quickly installed, capable of running in any kind of weather—AND—it saves the labor of several men.

READ WHAT MR. MUMMA of the Haviland (Ohio) Brick Co. says about his ONE MAN EXCAVATOR.

"We find THE BAY CITY EXCAVATOR works to our entire satisfaction. One man and the machine digs all our clay and the operator is only at his machine a fraction of the time. This lets him free and gives him plenty of time to remove the straw covering from the bank, place the tracks, and take care of the machine, ETC.

"The wide cutting saves moving the track often. The excavator works on its own track made up of four foot rails which are taken up and relayed by the operator.

"The machine displaced a gang of men which could not keep clay spaded fast enough for our consumption even under the most favorable conditions—much less when frozen straw, snow or bad weather complicated matters.

"As we write the wet snow is falling and men would not think of working outside, yet the merry chuckle of the exhaust of the excavator tells us it is operating continuously."

Write Us Today For Full Information. No Obligation.

The Bay City Dredge Works
BAY CITY, MICH.

Plant to Double Capacity

The Southern Brick Co., Bristol, Tenn., has construction under way on a number of additions to its plant for increased capacity. The work will include a series of new kilns and extension to brick molding department. Considerable new machinery will be installed, including dry pan, mechanical fan for dry kiln, brick cars, dump cars, trucks, and so forth. The plant has a capacity of 20,000 brick daily, and it is proposed to double this to an output of 40,000 brick. M. H. Copenhaver is president, and W. A. Mahan, plant manager.

Prices Lowered in Texas

It is the expressed opinion of W. R. Bennett, president of the Acme Brick Co., of Fort Worth, Texas, that the era of high prices for building materials has passed. In a review of the situation in that state, especially as to brick, tile and lumber, he makes some interesting comparisons as to prices at this time and a year ago. He says that the cost of common labor has been reduced, but the reduction has as yet not been extended to union labor. In discussing the situation, he said in part:

"Lumber is selling at about forty per cent. less than last spring prices; clay products on the average of about twenty-five per cent. less than last spring prices; on common brick the percentage of decline is greater than on hollow building tile and face brick. However, both lumber and common brick advanced a great deal more than face brick and hollow tile. Iron and steel prices are being or have been revised and when it is taken into account that freight rates on all commodities advanced a minimum of thirty-five per cent. on August 26, 1920, these lowered quotations show that the manufacturers are keeping their promise to reduce prices as soon as they were able to do so."

Just as the long awaited reductions in material prices have come so also the lowering of labor costs has already arrived. Here again the public is not aware of reduction, for it has not come in the way of very great reduction in wages. It has come in a much more desirable and effective way, however-that of greater efficiency and production per day per mechanic. Contractors report that they are evidently getting a much better class of mechanics, for without drastic cuts of wages, they are finding their unit costs of labor increased to an appreciable degree.

Has Customers in South Africa

The Rutland Fire Clay Co., of Rutland, Vt., recently shipped a consignment of stove lining to South Africa. Foreign shipments are not unusual with the company, whose product has been sent to Cuba and other foreign lands, but the South African order probably came a greater distance than any other. The company has a considerable number of customers on the Pacific Coast.

Plans Erecting Large Modern Brick Plant

The National Shale Brick Co., Martinsburg, W. Va., recently organized with a capital of $150,000, is perfecting plans for its proposed new local brick manufacturing plant, to be located on a fifty-acre site, recently secured. The initial plant will comprise forty-two round kilns, each thirty feet in diameter, with daily capacity of about 150,000 brick. A modern mixing and molding plant will be installed, with large drying plant to handle the kiln capacity. The majority of equipment will be electrically operated. At the clay properties, an electrically operated shovel will be used with modern conveying system leading to the plant. Contracts for certain portions of the work are being let. T. Vernon Aler is president.

Fire Partly Destroys Plant—To be Rebuilt

The part of the Kenilworth Tile Co.'s plant, at Newell, W. Va., destroyed by fire recently at an estimated loss of $20,000, will be rebuilt, it was announced recently by officials of the company. The blaze was confined to the paste room and the kiln shed. Both ends of the works were untouched by the flames. The blaze is the seventh fire to visit the plant within a few years. Four of which practically gutted the plant, while three were of minor nature.

S. C. Williams is president of the company; J. E. Campbell is vice-president and Claude Nease is general manager and treasurer.

Fire Works Havoc with Wood Supply

Phippen and Field, Dawes Road, Toronto, lost 209 cords of wood by fire. Sparks from the kilns caused the fire.

Making Many Improvements

The Foster Pottery Co., Hamilton, Ont., has just completed an addition to its plant and other extensive alterations. In the addition is a new kiln.

Show Appreciation of Secretary's Service

At a luncheon at the Ontario Club on December 24, the executive committee of the Canadian National Clay Products' Association presented the secretary, G. C. Keith, with a purse.

Starts Manufacturing Terra Cotta

Alias Desrosiers, 1742-A Delorimer Avenue, Montreal, has opened up a business for making terra cotta block in all sizes. Mr. Desrosiers has had a wide experience in this class of work.

Brick Manufacturer in Politics

W. H. Freeborn again headed the poll for alderman in Ward 4, Brantford, Ont. Mr. Freeborn is manager of the Ideal Brick Co. and a director of the Canadian National Clay Products Association.

1920 Record for Canadian Building

In their latest bulletin on building conditions in Canada, the Maclain Daily Reports, Ltd., estimated that building operation during 1920 will be found to have been the largest since the record year, 1912. This opinion is based on reports received from agents all over the Dominion. It is expected that the total will reach $300,000,000.

Canadian Concern to Make Hollow Tile

Among the new clay concerns in Canada is the Erie Clay Products Co., Ltd., of Port Dover, Ont. This plant has been constructed for the manufacture of hollow building tile and at the present time is equipped with four round down-draft kilns. Preparations are being made to enlarge the capacity and specialize in hollow tile manufacture. Flower pots are also being made as a side line.

M. M. Dillon, who was formerly connected with the Sparting Construction Co., in the engineering department, is manager of the clay concern. The plant is on the harbor extension at Port Dover, and it is hoped to be able to ship hollow tile to Montreal by barge.

A Company with Definite Ideals

UNION FUEL COMPANY

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Your coal satisfaction is determined largely by the service that you receive through the constant co-operation of the company that supplies you—Service includes Quality, Price and Delivery.

Our customers are pleased.

We invite correspondence and interviews.

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(85)

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

The Eagle Shale Planer

The machine consists of a massive steel foundation supported on parallel rails, on which it moves forward under control of the operator, after each semi-circular cut on the shale bank has been made. The swinging tower or frame and base carries the cutting chain and operating machinery, the shale being cut downward and conveyed into a storage tank with lifting gate in end to discharge into car or on to a conveyor belt for transportation to the crushing plant. The members supporting the cutting chain being on an incline and swinging on a semi-circle, leaves a bank, as the result of these two motions, which is in the highest degree self supporting and exposes a minimum surface to the disintegrating effects of the elements.

The advantages of the Shale Planer method of gathering clay as explained by the manufacturers, Eagle Iron Works, Des Moines, Iowa, are as follows:

A complete mixture of the different shale stratas, which insures a uniform product and uniform treatment of the material excavated.

Delivery of the material to the crusher in small particles thereby reducing the amount of work for the crushers to the extent that the power saved will operate the shale planer, or omitting the necessity of installing jaw crushers preliminary to the delivery to the dry pan crushers of very hard shale.

Aside from the above advantages, which in themselves would be sufficient reason for installing a shale planer the cost of operation and the cost of gathering clay by this method, where conditions are not unfavorable for a shale planer, is considerably less than by any other mechanical method, and as compared to hand gathering the saving in labor is too apparent to require mention.

Plans are being made for a new and larger plant to take care of the demand for this machine which the company feels sure its merits and the advertising of same will justify, so that for the coming years they will be able to handle the business properly.

* * *

The Rust Clay Feeder's Home

No—the Marion Machine Foundry & Supply Co., manufacturers of the famous "Rust" clay feeders, have not moved, regardless of the address given in their advertisement page 260 of the February 8 issue. (Our apologies for the error.)

Their address continues to be Marion, *Indiana*, and will continue to be Marion, *Indiana* regardless of mistakes of the printer trying to lift them bodily into another state.

You have read articles on training your memory thru the association of ideas. Here is an opportunity for you to practice it—train yourself to think "Marion, *Indiana*," every time you think of the *"Rust"* clay feeder.

* * *

Conco Industrial Products

An attractive, loose-leaf catalog has been issued by H. D. Conkey & Co., Mendota, Ill., illustrating their hand and power cranes, trolleys and cars. Just tell them you saw this item in *Brick and Clay Record* and a copy will be sent to you.

* * *

The Eagle Iron Works of Des Moines, Ia., recently received an order thru Chisholm, Boyd & White Co., for one of their 9-foot Iron Frame Dry Pans for shipment to the Government of Formosa.

BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

INDUSTRY NEEDS TO APPLY KNOWN FACTS

AT THE RECENT MEETING of the American Ceramic Society a paper was delivered which is published in this issue. The author points out that the need of the clay industry is the brain that can adapt. He states that many instances of loss have occurred by adopting without adapting the processes and appliances of one plant by another. This indeed expresses the condition in the clay products industry.

The greatest need of the industry is the ability and willingness to make use of facts that have already been determined and shown to be of practical value to the clay plant. Better results can be obtained from equipment now on the plant if proper methods were applied. In the matter of burning, for instance, it is possible to shorten the burning time and to get greater economy with present periodic kilns if a more intelligent use of the pyrometers, draft gauges and flue gas analyses was made. While in some instances these instruments have been purchased and used perhaps once or twice, the plant has not known how to apply the results.

There are two points wherein the editors of this journal disagree with the author of the paper discussed. However, it is perhaps due to his misconception of what was meant by standardization and research as often referred to in these columns, that the disagreement exists.

When standardization has been referred to, references were made to the standardization of methods to pursue rather than the standardization of the application of certain methods of treating various materials. It has been fully recognized that no two clays act alike, and hence, the same set of conditions on one plant would not apply to another. However, if thru study and experiment means were ascertained as to how to find out and determine the physical and chemical treatment required of a clay, this work would be valuable to any plant.

The object of an experimental plant would be to investigate mechanical problems for the industry. For instance, investigation of the power requirements of machinery, the advantages and disadvantages of various types of transmission, comparison of radiated, steam and waste heat dryers, and so forth, are questions in which every clay plant is interested. There is no doubt but that these problems merit investigation.

Similarly, research into burning and drying problems is desirable. Altho the application of the information secured thru such studies would vary in the case of individual plants, nevertheless the method of solving a given problem, could be uniform for the entire industry embracing clay products.

* * *

OPEN DISCUSSIONS ARE WHOLESOME TO MANUFACTURER AND INDUSTRY

COMPARISON was made at the recent convention of the American Ceramic Society of the great difference in attitude that exists among manufacturers in the present day as compared to the situation many years ago. Discussions of plant problems, methods and costs are given quite freely in the sessions of the Society. The recent tremendous development in the ceramic industry may be ascribed to this broad policy.

A free exchange of information and a very general knowledge of and interest in plant processes are the best possible means for encouragement of additional developments of the art and industrial advancement of the manufacturing plants included within any line of activity. No one person can expect to monopolize all new developments in an industry. It is invariably true that for every idea one manufacturer is able to give to his industry, he secures in return one equal in value.

Numerous instances were pointed out in the discussions at the American Ceramic Society meeting showing how often the plants that had enshrouded themselves in secrecy and built a fence about their factory, had been among those first to fail. An investigation of the plant after failure often revealed the use of processes long discarded by modern practice as impractical.

We deplore the policy of strict secrecy. Under no circumstances can an industry expect to profit permanently by any such policy. The spirit which prevails in the membership of the American Ceramic Society on the question of plant problems and research data is a commendable one and should be encouraged.

MODERN BUILDING CODES URGENTLY NEEDED

AT THIS TIME there is a great cry for more homes and lower cost of homes. In the effort to stimulate home building, temporary restrictions in fire limits and in building codes are being lifted in some instances. An example of this is the recent action by the City Council of Chicago, which permits the construction of wooden homes in certain sections now included within the fire limits.

Often in an effort to gain time and make haste in the development of an undertaking, obstructions encountered by those promoting the activity are swept aside with such fervor that their efforts frequently become frantic and in some cases irrational. This describes the situation with regard to the building of homes in many of our American cities today.

In many cities building codes are now in operation which were placed in force a decade or more ago and have never been amended since. However, in recent years there have been great advances made in the scientific use of structural materials and in many cases there are numerous reasonable changes that might be made that would result in materially reducing building costs still retaining proper and safe structural and sanitary requirements.

A review made of the building codes of many cities in the country, showed that in thirty cities the use of a brick wall eight inches thick or nine inches thick, as some people call it, was allowed in first and second stories and in some cases for a two and a half and three story building. Yet, in all other cities of the country that were included in the survey, which includes some sixty, there is required either thirteen inch walls in both stories or thirteen inch walls in the first story.

Similarly, there are many American cities which do not recognize hollow tile as a form of wall construction, yet if hollow tile and brick can be used safely in the minimum conditions required in some cities, it is quite safe to expect that the same codes would be applicable to other municipalities.

The discrimination against hollow tile and brick in many of our cities is unwarranted and unfair. Strong efforts should be put forth at this time to have changes made in building codes that will permit the use of fire proof materials so that the cost of homes might be cheapened without in any way reducing the safety or the sanitary requirements for buildings.

In view of the great demand for homes, the need for constructing residences at lower costs and the urgent demand for an immediate revival of building, those building codes that are out of date and unnecessarily stringent should be amended immediately. The most favorable time for such changes is right now when the demand for homes is so acute and when public attention and approval can be obtained more readily. Recently Los Angeles, Milwaukee and other cities have amended their building codes that make possible cheaper construction of homes built of brick.

Clay products manufacturers would do well to endeavor to consider the advisability of advocating changes in building codes in their territories where such changes can be made for the mutual benefit of the public and manufacturer.

* * *

WHY NOT FOLLOW CHICAGO'S IDEA?

THE SUGGESTION for the editorial advocating revisions in building codes to conform to present conditions and in accord with modern architectural and engineering practice sprang from the knowledge of steps now being taken in the City of Chicago. A joint legislative committee of the Illinois Chapter of the American Institute of Architects and of the Illinois Society of Architects. have secured the backing of the Chicago Association of Commerce, the Chicago Boosters' Club, Labor and other organizations, and in accord with the Board of Underwriters, have recommended certain revisions in the existing building code of the city.

These suggestions they state are made primarily to stimulate the construction of small homes and the recommendations if adopted will result in cheapening the cost of buildings without reducing the structural safety or the sanitary requirements for buildings.

The recommendations which were presented to the City Council Committee on Buildings on March 7 also referred to the fact that the present code in Chicago was prepared and adopted some eleven years ago and that there have been great advances made in the scientific use of structural materials since the date of its adoption. They furthermore state that there are many reasonable changes that might be made that would result in materially reducing building costs, still retaining proper and safe structural and sanitary requirements. While most of the recommendations were made especially to fit the needs of small structures designated as class 3 buildings, it was emphasized that the revisions should not stop at that point.

Among the suggestions made was one permitting the use of 8-inch brick walls, having a four inch facing of face brick, provided that the facing brick are bonded with a backing as elsewhere required in the code and that 8-inch brick, tile or concrete partition walls be permitted, with the restriction, however, that in no case shall any eight inch masonry wall be more than fifteen feet six inches in height. Other suggestions include the permitting of nine inch basement and foundation walls for small buildings, the amending of the structural requirements and method of laying hollow tile more nearly in accord with the best modern practice, etc.

Of great interest to common brick manufacturers is the recommendation that would permit "The construction of the hollow brick wall which has recently been used with such marked success in a number of American cities."

These facts show how Chicago is taking advantage of the opportunity to secure revisions in its building code to conform to present needs and they are presented here so that clay manufacturers can be inspired to stimulate similar action in their locality.

* * *

A HOUSE CLEANING IS IN ORDER.

IS THE DAY APPROACHING when the entire construction industry will be operated on a wholly different system than it is now? Will labor be hired on a different scale, contractors compensated according to new standards, bank loans made on a new basis, the rent problem handled more scientifically, homes sold at lower initial payment and according to a new system, and so forth?

There are many who believe that with costs where they are and with the consumer on a strike, we have reached a place where a new deal is needed that will affect every trade or business allied to the construction industry. The whole business must be placed on a more scientific basis and handled like other modern businesses are conducted.

The feeling is becoming stronger and more pronounced that labor must be paid according to new and more equitable regulations. The need for the grading of union men into several classes according to their ability, is urgent. The time is at hand when it should be considered unfair and inconsistent with the needs of modern civilization that one man be paid for the efforts of another, —for that is just what standard wages in a trade amounts to.

The architects in their code of ethics have judged what a fair compensation would be for the drawing of plans for a small home. The possibility for contractors to find some practical and equitable standard scheme for being rewarded for their work seems obvious. Similarly, the financing of a builder can be made to conform to certain standards. An example is the system used by a bank in Philadelphia which charges 3¼ per cent. for its service which includes also the searching of the title, guarantee against mechanics liens, etc.

The scientific handling of the rent problem is advocated. A new building should be productive of certain rents for a certain length of time and after say twenty years, it should be productive of only 50 per cent. of its original rental value taking into account of course, maintenance costs. A suggestion for such a system has already been worked out.

The reason the public is not building today is due to its lack of faith as to the stability of present construction costs. The argument has been advanced that we must educate the public to understand that the old level will not return and that present building costs are at rock bottom. However, the lack of confidence on the part of the public which is due to the war's degenerating effects and to the evil effects of the reckless period of inflation thru which we have just passed, will not be soothed except that the building industry lay its cards on the table, face up.

There are many opportunities in the construction industry as it is now conducted, to slip one over the public without the public knowing just where the trouble lies. On the other hand, while not knowing how or where, they have been buncoed, the public usually does know that "something is rotten in Denmark." With opportunities such as these still existing there is bound to be hesitancy on the part of the people to "become educated to stabilized costs." The more thought that is given the subject, the more it becomes apparent that a good house cleaning in the construction industry is now in order.

Forrest K. Pence (on the left) President-Elect of the American Ceramic Society and Ceramic Engineer and Production Manager of the World's Largest Encaustic Tile Factory; Col. Edward Orton, the Founder of the Society Who Returned After an Absence of Four Years

A. C. S. MEETING PICTURES DEVELOPMENT *in* INDUSTRY

While Tremendous Scientific Progress Has Been Made, the Need for Still Greater Perfection Was Emphasized at Ceramic Society Convention Which Was Featured by a Record Breaking Attendance

A SPIRIT of persistent determination to keep on growing and reaching deeper and further into the various fields that it embodies, seems to have been imbued in the American Ceramic Society. In each report of the annual conventions held during recent years by this technical organization, which is a very influential one, so far as the progress of our plant operation methods are concerned, we have reported increased activity, enormous growth in membership, wider scope and record-breaking attendances. The twenty-third annual meeting of the Society, which took pace at the Hotel Deshler, Columbus, Ohio, on February 21, 22, 23 and 24, was no exception to the general progress of the organization.

The attendance registration at the February meeting far exceeded that of any previous convention record and reached a total of four hundred and six persons. This splendid turn-out may be attributed to the following factors: the central location of the meeting place, Columbus being the center of the ceramic world; the increased membership of the Society; the greater scope of work being covered by the organization for its members and the ceramic industry, and the increased interest in the Society. Also, a new precedent was established in that thirty-five ladies were present at this convention.

HEAVY CLAY PRODUCTS DIVISION ORGANIZED

Of considerable interest to the readers of *Brick and Clay Record* is the organization of a heavy clay products division of the American Ceramic Society which was accomplished at the meeting. The successful launching of that division, together with another on ceramic decorative processes featured the convention.

The meeting was called to order by President R. H. Minton, on Monday morning, February 21. As his presidential address Mr. Minton chose the subject "Some Problems to Be Solved."

"The objects that the administration sought to accomplish during the past year," says Mr. Minton, "were:

"1. The expansion of the journal to cover a broader field and the enlarging of the abstract department.

"2. Drafting a complete constitution and by-laws to replace existing rules which no longer were in keeping with the growth and operation of the Society.

"3. Placing the journal advertising upon a strictly business basis by handling the advertising thru an experienced solicitor.

COOPERATION WITH FEDERAL BUREAUS

"4. Broadening of activities to include other phases of industries allied to strictly the technical, including cooperation with federal bureaus on important investigations and cooperation with other technical societies.

"5. Development of a series of sessions at the meetings of the Society and various divisions for presentation of data upon factory problems.

"6. The formation of a whiteware division and the extension of the activities and membership of the Society to include heavy clay products manufacture and decorative arts allied with ceramics."

Among other things Mr. Minton said, "The growth in Society membership has been more than ten per cent. in spite of a poor year. When we consider that oxygen, silica and alumina form approximately eighty-five per cent. by weight of the elements of the earth, we can form some conception of the magnitude of the foundation upon which the ceramic industry stands. Yet, little has been done to ascertain the properties of silicon compounds.

WEAK IN FUNDAMENTAL DATA

"The problems with which we must deal are chemical and physical on one hand and mechanical and human on the other. From the chemical and physical standpoint, we are weak in fundamental data. Among some of the general problems involving certain fundamental laws may be mentioned those involving the drying and firing of clay products; heat transmission and heat losses; problems of combustion which include the whole process of kiln construction, kinds and forms of fuel, and firing methods and control.

"Many of these and related problems are, of course, works problems; but they are all based upon laws about the operation of which we have very little knowledge or data. There is a great need for the investigation of the properties of glazes and their relation to ceramic bodies of various compositions. The collection of data which will give a better understanding of the problem of crazing and its control is highly important. Much remains to be done in learning the relation between the composition of glazes and frits and the solubilities of lead glazes. In the field of refractories there is much room for improvement and development. Very high temperature work in laboratory and plant is dependent upon corresponding development in refractories. The increase in efficiency in kiln construction and firing methods rests largely upon suitable refractories. A possible great field in clay refractories lies in the utilization of those kaolins termed undergrade kaolins which, due to their poor color, or for other reasons, cannot be used in the whiteware industry. Among the artificial refractories the future promises great advancement in the use of sillimanite, alumina, zirconia, magnesite and carborundum. All other industries which have need for saggers and slabs recognize these as one of the most vexing problems calling for solution.

KNOWLEDGE OF PLASTICITY IN CLAY DESIRABLE

"Glass and refractories divisions of the American Ceramic Society should cooperate and work out the problem of the fluxing action of glasses on clay bodies and tanks used in glass furnaces, which is of great importance.

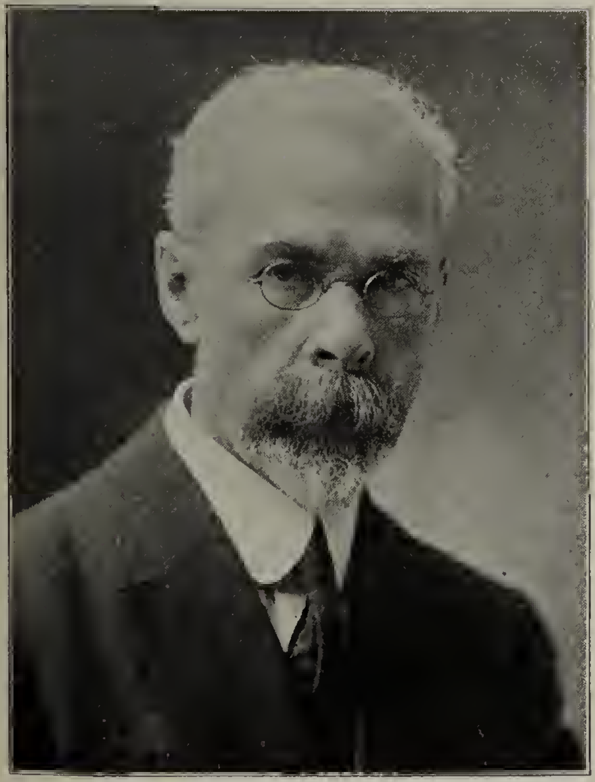
"A thoro study of the plasticity of clays and how it can be produced artificially, would be of utmost value. This is a most important factor in relation to our whiteware industry where the use of more plastic china clay and kaolins would permit the elimination of ball clays. In a general way we have not greatly improved the quality of our pottery wares and in order to manufacture a product that compares favorably with the European hard porcelain, ball clays must be omitted from the body. In this connection, colloidal chemistry and its bearing on ceramics might be further investigated.

"The whiteware division of the American Ceramic Society should have a committee to investigate into deposits of raw materials and collect data that will lead to specifications for clays, flints, spars, and so forth. Other manufacturers do not have the knowledge and control of raw materials that is necessary for exact control of methods of preparation. This is especially noticeable in comparison with European methods where all materials are purchased in a crude condition and all sorting, refining, grinding and blending is done at the works.

USE MECHANICAL DEVICES IN FAVOR OF LABOR

"In all of the ceramic industries there is great room for advancement and improvement in mechanical equipment of all kinds. In most of the clay plants now in operation, mechanical means of transportation in the various stages of the process could be used to advantage. Especially in the heavy clay products industries is it desirable to perfect the entire system to more closely approach automatic procedure with the greatest possible elimination of labor. In Germany there is now a plant in the process of being equipped with automatic machinery by which, it is claimed, finished brick will be ready for shipping just six days after the raw clay is dumped into the brick machine. The brick are made by the stiff mud process, mechanically placed upon cars, which automatically move into a humidity dryer, where the brick are dried in eighteen hours and are then passed into a tunnel kiln and are fired in less than ninety-six hours.

"In the pottery industry there is need of further labor saving machinery. Among these might be mentioned the automatic batting-out machine used in England and Germany, the casting machine, used in England, and the automatic cup jigger used in Germany, and there is also need for a good deal more mechanical conveying methods.

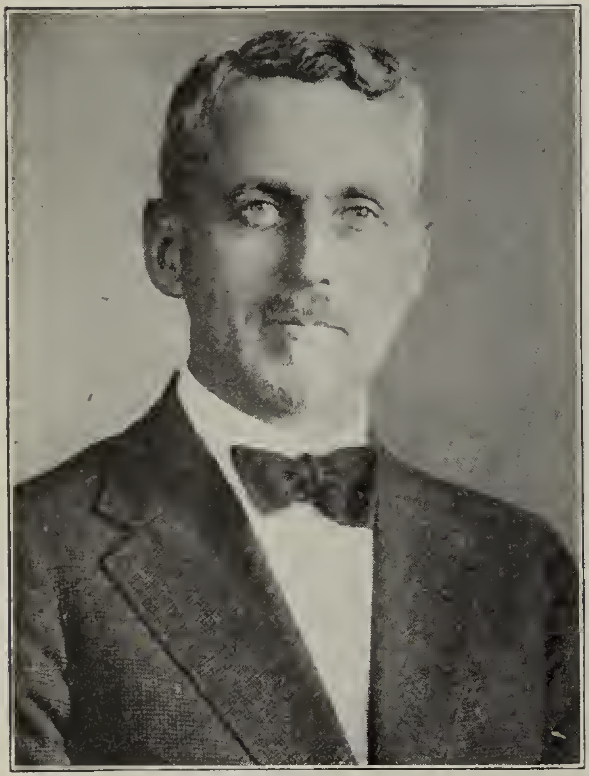


Chas. F. Binns, Secretary

R. M. Howe, Newly Elected Trustee

R. K. Hursh, Treasurer

THREE OF THE OFFICERS FOR 1921



Ross C. Purdy (on the Left) Who Was Elected to Lead the Heavy Clay Products Division of the American Ceramic Society for the Coming Year, and A. S. Watts (on the right) Who Was Chairman of the Local Arrangement Committee.

WANT SUBSTITUTES FOR FILTER CLOTHS

"Perhaps one of the important problems needing solution is that of a continuous or semi-automatic filter press, eliminating cloths. In England there has been perfected recently a semi-automatic machine for de-watering and classifying clays, which is known as the Gee centrifugal separator. This machine works on a centrifugal principle and while it is entirely successful in removing the water from clay slip, it has the unfortunate fault of also grading the materials into sizes. One large china clay company is at present using this system for preparing its clay for the market. For certain cruder clays this system might be valuable.

"The question of standardization of many of our methods and products deserves serious consideration. In every line there is a multiplicity of designs, shapes, patterns, and sizes which might well be restricted by proper cooperation. It was only thru the war that we began to realize the waste thru unrestricted duplication in production. The Refractories Manufacturers' Association has undertaken the systematic standardization of their products and they are beginning to realize the importance of this work and the benefits that will result.

NEED FOR STANDARDIZATION OF SIZES

"In the sanitary industry there are many manufacturers asking many different styles of different articles and in each instance a great deal of duplication is constantly adding to the cost of production. Then again I have found that many jobbers handling metal fixtures make their own designs and sizes without regard to any standards. In the glass industry the necessity of standardizing certain wares is of urgent importance. In the items of bottles and jars alone there are now between four and five thousand different sizes, shapes and kinds being marketed.

"Engineering problems of heavy clay products need solution and data is needed on the tunnel kiln and continuous compartment kiln. Information is needed of methods to eliminate fuel waste in the firing of kilns already constructed and in general, more data is desired on the more efficient use of equipment already on hand on the clay plant."

Following this valuable address, which was unusually enlightening, and which carried a message worthy of deep consideration, Ross C. Purdy moved that the paper be studied seriously by a committee of three and a report made of the points raised therein at the next annual meeting.

The busy secretary, Charles F. Binns, read the Board of Trustees' report and recapitulated the progress of the Society during the past year and mentioned such points as: The appointment of a new editor, Dr. E. W. Washburn, to take the place of Homer F. Staley, who resigned. A recommendation was made for representation of the Society at the next chemical exposition. The report stated that the last summer meeting of the Society proved highly successful. Also, more new papers were presented at this meeting than heretofore. Other high lights in the report were the announcement of the publication of a collective index of the various articles appearing in the publications of the American Ceramic Society and the report that the Board of Directors did not feel that conditions justified the employment of a permanent secretary for the American Ceramic Society at the present time, because of insufficient income.

WORD "CERAMICS" DEFINED

Dr. Washburn, chairman of the Committee on Cooperation, told of the arrangements made with other societies in the preparation and interchange of abstracts. Copies of the report of the definition of the word "ceramic" has been distributed to various organizations and to publishers of dictionaries and encyclopedias so that a uniform conception will be had of the term "ceramic." The cooperation with the American Gas Association in the distribution of a questionnaire on gas burners and so forth, was also mentioned. The committee also recommended that hereafter a special committee be appointed to take charge of the arrangements for the chemical exposition which heretofore has been under the jurisdiction of the Committee on Cooperation. The chairman of the Committee on Sections and Divisions reported the extension of the work of the Society in promoting professional divisions and sections and providing for cooperation between these divisions and the industries they represent. It was recommended that the sections be forced by localities inside of geographical territories.

L. E. Barringer, who is chairman of the Committee on Publications, told of the raise in printing costs and stated that there was a deficit of $2,673 for printing the Journal during the past year. This deficit is smaller than it would have been had the money received from advertisements not been available, because the Journal was productive of over $5,000 worth of advertising revenue. An increase in advertising rates of from thirty to forty per cent. has been instituted to partially cover this deficit, and the subscription price to non-members has been advanced from $6 to $8.

WANTS CEMENT, LIME AND MORTAR DIVISION

Frank H. Riddle, chairman of the Membership Committee, reported on the organization of a new division to be known as the Ceramic Decorative Process Division, which has a possible membership of over three hundred. He also told of the attempt to interest the formation of a cement, lime and mortar division, which has thus far been a failure.

Attempts thus far to organize a heavy clay products division had been unsuccessful, but it was hoped that this year the organization would be consummated. He stated that the users of refractories would be greatly interested in the publication of a hand book which should be prepared by the refractories division and the possibilities of forming a division in the American Ceramic Society for refractories users was thought quite favorable.

Mr. Riddle reported the loss of eighty-five members during the past year thru deaths, resignations, and so forth, but a net gain in membership has been made, so that there are now 1,348 members in the American Ceramic Society.

Mr. Minton, who is chairman of the papers and program committee, reported a greatly increased list of papers on ceramic subjects and urged the members to begin early in the preparation of papers for next year. He stated that the kiln symposium held last year was entirely successful and reported that a kiln and sagger symposium was arranged for the present meeting.

NEW SET OF RULES COMPILED

A. S. Watts, chairman of the Rules Committee, reported the drawing up of a new constitution and by-laws for the American Ceramic Society to take the place of the rules which the Society has now outgrown, and under the new regulation ten per cent. of the dues of a member are appropriated for use in the division which he is interested in.

A. V. Bleininger, as chairman of the Committee on Ceramic Research and National Research Council, stated that two meetings were held at which it was considered that discussions on the investigation of glass and the investigation of clay tank blocks be made, but the money was not forthcoming. A fellowship to study the viscosity of glass was established at Corning, N. Y., by arrangement with the Ceramic Department of the University of Illinois.

Mr. Bleininger also told of the organization of a heavy clay products investigation committee which was being formulated and supported by various national clay products associations. An account of this research work and program was published in the last issue of *Brick and Clay Record.*

On Tuesday the individual meetings of the industrial divisions were held at which occasion the various papers relating to the industry represented were read.

ENAMEL DIVISION DISPLAYS MUCH ENTHUSIASM

The enamel industry, of which E. P. Poste is chairman; R. R. Danielson, secretary, and Homer F. Staley, B. T. Sweely, R. D. Landrum and I. A. Saunders, councillors, had between eighty and one hundred members in attendance at its sessions which were full of an atmosphere of enthusiasm and interest.

Among the more important papers read at this meeting were those on the melting of enamels in ordinary furnaces, the cost of smelting and a discussion on the topic of fish scaling. The vitreous enameling by means of an electric furnace in use at the plant of the General Electric Co., was of special interest to this division.

Over 150 members were in attendance in the sessions of the whiteware division. A. V. Bleininger was chosen chairman and C. C. Treischel, secretary, of this division. It was recommended that a committee be appointed to draw up plans to present to the trade associations representing the various divisions of the whiteware industry, for the purpose of securing cooperation for sustained and planned research. This committee is to be composed of representatives of each of these branches of the industry, that is, floor and wall tile, sanitary ware, electrical porcelain, general ware and raw material.

WHITEWARE DIVISION HEARS MANY FINE PAPERS

The paper on "Feldspar," by C. C. Treischel, was of great interest to the members of this division, and brought forth considerable discussion of the situation with regard to this material. Other papers of immense value to the members of the whiteware division were those by G. Simcoe, who reviewed the sagger situation, and one by F. H. Riddle, who described a new way of determining how to fit a glaze to a body by means of tensile strength. F. K. Pence also contributed a very educational and interesting paper on sagger clay preparation.

In the refractories meeting an attendance of approximately sixty were at hand. A. F. Greaves-Walker was elected chairman and F. A. Harvey, secretary. Mr. Harvey's paper on "The Testing of Coke Oven Refractories," was of considerable interest to this division. Some of the chief points brought out by this paper were that a long time test, of six days' duration, appears to give results more practical and important than the shorter time tests on coke oven refractories.

Mark Sheppard, of Pittsburgh, delivered a paper on "Zirconia Cements," which was very educational. For dobbing fire brick for work at high temperatures crude zirconia is not very satisfactory. Pure zirconia, however, is practical. A twenty-five per cent. increase in the length of life of a fire brick coated with a wash of zirconia was found possible as a result of experimentation.

I. A. Krusen spoke on the subject of "Refractory Clays of Missouri." He told how clays that had been rejected for a long time were recently tried again and used for manufacturing super refractories with splendid success.

FIRST MEETING OF NEW DIVISION

E. E. Ayars presented a paper of much practical value entitled "Molds for Magnesite, Chrome and Silica Brick." Details as to the construction of molds for manufacturing the above refractories was given, and this instance is perhaps the first one where a paper of this nature has been presented to any body.

The initial meeting of the Ceramic Decorative Process Division was held and the organization completed. Fred H. Rhead was elected chairman, R. C. Cowan, vice-chairman, and Miss Fowl, secretary. A large attendance was present at this occasion and a splendid program furnished.

About forty men were present at the terra cotta division, which proved to be full of enthusiastic discussions. A. F. Hottinger was elected chairman, R. L. Clare, secretary, and E. C. Hill and M. E. Gates councillors. One of the chief discussions at this division was on the use of a humidity dryer for drying terra cotta. F. B. Ortman described the installation of the Carrier humidity dryer system at the Northwestern Terra Cotta Co.'s plant. Mr. Gates presented a paper on the "Humidity Dryer" constructed at the Indianapolis plant of the American Terra Cotta & Ceramic Co. An extended discussion followed this paper, in which a debate ensued as to how the ware was dried. It was finally decided, after considerable debate, that this particular dryer installation was operated on the principle of a simple steam boiler.

R. C. PURDY HEAD OF HEAVY CLAY PRODUCTS SECTION

Of much interest to manufacturers of heavy clay products

(*Continued on page* 427)

HEAVY CLAY PRODUCTS DIVISION ORGANIZED

AFTER SEVERAL unsuccessful attempts to organize a heavy clay products division of the American Ceramic Society, there was initiated on February 22, at Columbus, Ohio, on the occasion of the twenty-third annual meeting of the American Ceramic Society a section to be known as the Heavy Clay Products Division. About forty representatives from various clay plants located in many parts of the country were present and aided in the organization of this new technical body.

Frank H. Riddle, chairman of the membership committee of the American Ceramic Society, outlined to the clay manufacturers present the need for such an organization and acted as temporary chairman for the day. C. Forrest Tefft, of Fiske & Co., Inc., Watsontown, Pa., acted as temporary secretary.

INDUSTRY IS ADOPTIVE BUT NOT ADAPTIVE

Marion W. Blair, superintendent of the Suburban Brick Co., Moundsville, W. Va., read a paper entitled, "Technical Investigation or Practical Application," in which he outlined the needs of the heavy clay products division. He stated that what was needed most was the ability to apply knowledge already at hand rather than the unearthing of new methods and systems. He stated that there were hundreds of places where improvements could be made and said that on many plants pyrometers were used ineffectually because they served only as a check on night burners instead of being used to aid in the regulation of burning.

"Many plants could not identify a hygrometer or anemometer, and draft gauges were not used because of the lack of knowledge of how to apply them," said Mr. Blair. "The adopting instead of adapting of labor and cost saving principles was the fault of the industry as a whole."

R. F. Geller, who holds the fellowship of the Hollow Building Tile Association at the Bureau of Standards, Washington, D. C., read a paper on the "Watersmoking of Clay," in which he outlined the results of experiments in watersmoking three different types of clays. The purpose of this investigation was to determine if possible the minimum time and temperature required for watersmoking these clays. The method of attacking this problem was fully described.

The discussions following these papers, and the determination of a policy to be followed out by the heavy clay products division brought out the fact that Mr. Blair's paper struck the keynote of the needs of the section. It was decided that the division would be a clearing house for the information secured thru association research and for interchange of information, and it was further desired that all papers read at the meetings of this section be interpreted in terms of brick yard language.

PURDY TO LEAD DIVISION

Ross C. Purdy, vice-president and general manager of the Dover (Ohio) Manufacturing Co., was chosen chairman of this division. Mr. Purdy is a very active man who knows the clay products industry's needs and who will undoubtedly be the right man to lead the organization.

C. Forrest Tefft, assistant factory manager of Fiske & Co., Inc., Watsontown, Pa., was chosen temporary secretary.

Among those present at the meeting were:

Ross C. Purdy, Columbus, Ohio.
L. M. Christie, National Fireproofing Co., Brazil, Ind.
M. P. Post, Post Bros. Tile Co., Commerce, Mo.
Ellis Lovejoy, Columbus, Ohio.
Paul E. Cox, Iowa State University, Ames, Iowa.
Harry D. Foster, Bureau of Standards, Washington, D. C.
R. K. Hursh, Department of Ceramic Engineering, University of Illinois, Urbana.
R. F. Geller, Department of Ceramic Engineering, University of Illinois, Urbana.
B. C. Taylor, Revere, Mass.
R. A. Shipley, National Fireproofing Co., Pittsburgh, Pa.
A. R. Trace, National Fireproofing Co., Hobart, Ind.
D. F. Stevens, Acme Brick Co., Danville, Ill.
W. Guy Weaver, National Fireproofing Co., Perth Amboy, N. J.
D. P. Ogden, Streator (Ill.) Brick Co.
J. L. Child, Hancock Brick & Tile Co., Findlay, Ohio.
Will P. Blair, National Paving Brick Manufacturers' Association.
Fred Brand, superintendent, Hydraulic-Press Brick Co., Roseville, Ohio.
W. W. Coates, Jr., Coates Manufacturing Co., Kansas City, Mo.
Roy G. Horning, Lancaster Brick Co., Lancaster, Pa.
Harry S. Vincent, Vincent Clay Products Co., Fort Dodge, Iowa.
W. H. Herbert, W. A. Bush & Co., Nashville, Tenn.
E. E. Roll, Cleveland (Ohio) Builders Supply & Brick Co.
C. D. Wilson, Cleveland (Ohio) Builders Supply & Brick Co.
G. R. Robinson, Hocking Valley Brick Co., Nelsonville, Ohio.
Isaac R. Stoner, National Fireproofing Co., Aultman, Ohio.
H. S. Langworthy, Jewettville (N. Y.) Clay Products Co.,
Marion W. Blair, Suburban Brick Co., Moundsville, W. Va.
P. A. Smith, A. F. Smith Co., New Brighton, Pa.
W. H. Grant, Kane Brick & Tile Co., St. Marys, Pa.
Carl B. Harrop, Ohio State University, Columbus, Ohio.
C. W. Berry, Laclede-Christy Clay Products Co., St. Louis, Mo.
C. F. Tefft, Fiske & Co., Inc., Watsontown, Pa.
S. H. Stevens, American Clay Products Co., So. River, N. J.
A. V. Bleininger, Homer Laughlin China Co., Newell, W. Va.
M. B. Greenough, National Paving Brick Manufacturers' Association.
R. B. Keplinger, Metropolitan Paving Brick Co., Canton, Ohio.

* * *

Eastern Section A. C. S. Meets

The executive committee of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society held a meeting at New Brunswick, N. J., Friday morning, February 18, at which a number of important matters were up for discussion.

Following an inspection of the prize-winning designs submitted for the facade of the new ceramic research station to be constructed at New Brunswick, N. J., and explanation by Professor Brown, director of the department, of the manner of conducting the contest for the plans and method of awarding the prizes, a vote of thanks was given to the National Terra Cotta Society for its interest in the work. The contest was conducted under the auspices of the society, which arranged the prizes and details. The National Terra Cotta Society offered the prize in cooperation with the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society.

In order that full cooperation could be secured with the Board of Trustees of Rutgers College in connection with the erection of the new building a committee was appointed to confer with the board on various matters. This committee will consist of D. J. Fisher, Sayre & Fisher, Sayreville; Charles A. Bloomfield, Bloomfield Clay Co., Metuchen; C. W. Crane, the Crossman Co., South Amboy; Professor Brown, with chairman of the executive committee, Charles Howell Cook, as ex-officio member.

Discussion ensued relative to the regular annual meeting of the association, slated to be held in January, and postponed thru a number of causes. A committee was appointed to arrange the details of the meeting, with hopes of perfecting a definite date in the near future. This committee consists of Fred Whitaker, General Ceramics Co., Keasbey, N. J.; Leslie Brown, Lenox, Inc., Trenton; and D. P. Forst, Robertson Art Tile Co., Trenton.

Those present at the meeting were: Charles Howell Cook, president of the Cook Pottery Co., Trenton; Charles A. Bloomfield; Professor George H. Brown; Leslie Brown; D. J. Fisher; August Staudt, head of the Perth Amboy (N. J.) Tile Works; R. H. Minton, General Ceramics Co., Metuchen, N. J.; Fred Whitaker; Charles T. H. Phillips, head of the Sneyd Enameled Brick Co., Trenton; C. W. Crane; and LeRoy W. Allison, editorial representative, *Brick and Clay Record*.

* * *

Guaranteeing Prices Against Decline

The Federal Trade Commission has made the following announcement with respect to guarantee against decline in price: "The Commission received so many complaints about the practice of manufacturers in guaranteeing commodities in the hands of wholesalers, against decline in price, that an extensive inquiry was made, resulting in expressions from more than 350 manufacturing and selling concerns including trade associations whose represented membership must be more than double the number of individual statements. From the scope of the inquiry and the number and variety of replies, results shown may be taken to be fairly representative of the difference in business opinion on this subject.

"The commission, therefore, will consider each case of complaint of this character upon facts shown in the specific case, applying legal tests thereto. This action involves neither approval nor disapproval of the economic soundness of the arguments advanced before the Commission for and against this practice."

* * *

Brick Hollow Wall Gaining in Popularity

The new brick hollow wall is getting a great amount of publicity in daily papers all over the country. Not only brick manufacturers but the building public is evidencing an interest in this new type of brick wall which augurs well for its future popularity. Brick manufacturers are taking up the idea and advertising it. From the Sheridan (Wyo.) Press Brick Co., was received a copy of the newspaper containing the company's advertisement and also an article in the paper on this new wall.

Advices have been received from Illinois, Pennsylvania, California, Ohio, New York, Indiana, Wyoming, and other states that the home builders are showing interest in this type of brick wall. If properly pushed this idea may be the means of stimulating building to an appreciable extent.

* * *

Coal Mining Activities Slowing Up

The geological survey recently issued a report on the production of bituminous coal, anthracite and beehive coke. The report states that the total output of soft coal during the week ended February 5 including lignite and coal coked, is estimated, on a basis of shipments over principal coal-carrying roads, at 8,045,000 net tons, a decrease of 521,000 tons, when compared with the output of the preceding week. The output of anthracite during the first week of February was 1,985,000 net tons, or within 14,000 tons of the week preceding, when production practically reached the 2,000,000 ton mark. Shipments over nine principal anthracite-carrying roads were 37,954 cars.

* * *

Definite Action Taken to Reduce Labor Costs

A report recommending a reduction of 23.9 per cent in wages paid to skilled labor was adopted at a meeting held in the Master Carpenters Hall, in Philadelphia, by representatives of employers. This action was taken because ninety per cent. of the twenty-seven crafts represented in the building trades are out of employment and the industry doing practically nothing. An hourly wage, when working full time, of $46,000 is paid to 40,000 skilled workers in this city. These men will be affected by the proposed reduction.

The committee says no reduction is likely to be made in the wages paid unskilled labor.

The committee stated that the rate was more than 73 per cent. higher than the pre-war average wages and for the most part higher than the 1919 schedule of wages.

A standard week of 44 hours for most of the skilled crafts in the industry, and forty hours for bricklayers, plasterers and lathers was recommended. Double time would be paid for over time on Saturdays, Sundays and holidays and time and one-half would be paid the first four hours and double time thereafter on week days, if the report of the committee is accepted by the union.

It is expected by May 1 building costs will be reduced twenty-five per cent. by the reduction already in effect and others contemplated. Fourteen per cent. would be saved in materials and eleven per cent. in cheaper labor. The committee expects living costs to be reduced about twenty per cent. by the first of May.

The proposed reduction in the various crafts of the building industry are: Carpenter, from $1.12 to 90 cents per hour; bricklayers, from $1.30 to $1; cement finishers, from $1 to 80 cents; dock builders, from $1.12½ to 80 cents; elevator constructors, from $1.25 to 90 cents; electricians, from $1.12½ to 90 cents; iron erectors, from $1.12½ to 90 cents; lathers and plasterers, from $1.25 to 90 cents; marble setters, from $1 to 80 cents; plumbers, from $1.15 to 90 cents; painters, from $1 to 80 cents; roofers, from $1 to 90 cents; sheet metal workers, from $1 to 90 cents; steamfitters, from $1.10 to 90 cents; soft stone cutters, from $1.20 to 90 cents; granite cutters, from $1 to 80 cents; tile setters, from $1 to 80 cents; hoisting engineers, from $1.20 to 90 cents; pipe coverers, from $1 to 80 cents and automatic sprinkler setters, from $1 to 80 cents.

The following compose the committee: Joseph M. Steele, A. D. Irwin, Barclay White, J. W. Davis, Albert C. Kuehnle, Thomas M. Evans, Arthur D. Smith, Amos Y. Leshers, O. F. Durkin, William M. Anderson, John Brenheman, Herbert Bear, Wilmer E. Taylor, J. C. Humphries, Peter Gray, J. P. Kipler, H. L. Watts, P. H. Kelly, John Holleran and John A. Duross.

The proposed scale of reductions is to be given to the labor unions of the building trades crafts and they will be asked to act upon it as soon as possible.

* * *

"Own Your Home" Show to Stimulate Building

Much time and effort is being spent by those directly interested to make the "Own Your Home" exposition at the Coliseum, Chicago, Ill., March 26 to April 2, a mighty success.

Keen business men realize that the home is the foundation of prosperity. They realize that the more homes there are in America, that is, real homes, and not the nomadic habitations of the renting classes, the better it is for every class of business. The truth is that the man who is living with his family in his own home is a better customer than the one who is living with another family.

The Chicago Face Brick Association will occupy a prominent position at the exposition and this association's interest will mean a considerable boost for the clay products industry. The committee on clay products is in charge of Wm. P. Varney, manager of the Chicago branch of the Hydraulic-Press Brick Co. Mr. Varney is working hard to make an attractive and practical display for the clay products industry.

One of the interesting features in connection with the exposition will be the exhibition of plans for small houses. A contest has been run in the architectural journals for the best designed small homes. Facades of the prize-winning homes will be erected in the Coliseum, and the plans for these homes will be available to builders at a nominal sum. Three facade designs will be exhibited, one of stucco finish, one of frame and one of brick.

Following the Chicago affair New York will hold its third annual "Own Your Home" exposition, from April 16 to 30.

Following is a list of parties interested in the clay products branch of the exposition:

Chicago Face Brick Association, W. S. Dickey Clay Mfg. Co., Kansas City, Wheeling Sanitary Mfg. Co., Chicago.

INDUSTRY NEEDS *to* APPLY AVAILABLE INFORMATION

Clay Industry Needs to Use Some Common Sense Engineering and the Ability and Willingness to Apply Facts Already Known

By Marion W. Blair

Superintendent, Suburban Brick Co., Moundsville, W. Va.

A RECENT EDITORIAL in a clay trade journal calls loudly for a reduction of costs by means of more technical investigation. In the same issue is an unanswered appeal from a subscriber for information as to how to remove lime pebbles from a common brick clay. On another page is the announcement of the departure from the industry of a prominent technical investigator. The three items answer pretty clearly the question "What's the matter with the brick industry?" A mania for technical information of no value unless it is applied. Inefficiency in the distribution of the most ordinary information. The departure from the industry of the very men and the only men capable of applying the information already available or yet to be acquired.

The first and foremost need of the clay industry is not so much new technical information, as it is the ability and willingness to apply that which we already have. In other words, we need common sense engineering in the manufacture of brick and tile and a technically trained personnel on each individual plant instead of in a distant laboratory. The manufacture of brick and tile has, in the opinion of many, reached a critical point in its development. The public's need for such ware is undeniable but, in order to serve to the utmost, qualities must be improved and costs reduced.

GET MOST OUT OF PRESENT EQUIPMENT

Just as it would be extremely foolish to delay action until a steam launch were available to save a drowning man twenty feet from shore, with a row boat, a coil of rope and a life preserver right at hand, to say nothing of a half dozen good swimmers, so would it, in my opinion, be foolish to undertake an elaborate program of experiment like that involved in an experimental plant or an association laboratory and meanwhile make no attempt to get better results from present equipment or refuse to replace obsolete methods and quipment with that which is already available, and an obvious improvement and cost reducer.

There are hundreds of hand fed dry pans; hundreds of dust bins that must be shoveled out; hundreds of choking elevators too small for the work required. Thousands of steam and water leaks, miles of uninsulated steam lines, thousands of slide valve engines, scaly boilers and unpainted buildings, for none of which is the laboratory responsible or a curative. The spectacular, unusual saving is more attractive but in the clay industry unfortunately, the spectacular things have never gotten anywhere and of the sponsors for the spectacular, revolutionizing plants which have been put across, we may say, like the knights of old, "Their bones are dust. Their good swords rust. Their souls are with the Saints we trust." But in their path is rusting machinery and discouraged men.

EACH PLANT HAS INDIVIDUAL PROBLEMS TO SOLVE

The industry is essentially one of small investment and comparatively widely scattered units. Each plant, or at best, each district deals with a material and often a product peculiar to itself and each plant organization must develop an ability to apply good mechanical, engineering and general ceramic information to the local situation. The common sense application of good mechanics, sound construction and known ceramic technology can easily reduce the cost of clay ware manufacture twenty-five per cent.

In the matter of burning, for instance, why not shorten the burning time and get all the economy possible out of our present periodic kilns as well as experiment with other types. Each and every plant in the country can improve its burning by a more intelligent use of the pyrometer, draft gauges, CO_2 recorders, or flue gas analysis. Many plants are using pyrometers,—yes, but for what purpose? To regulate the burning? Not at all. They are in the office under lock and key and are used to discover if the night fireman sleeps on the job. Draft gauges have been bought but, because of inability to use them to any advantage, have been discarded. Gas analyses have been made, during one burn, and no application made of the results.

An Anemometer—Claimed to be a Total Stranger to Clay Plants. It is Used for Determining the Velocity of Gases.

FEW PLANTS USE MODERN BURNING APPARATUS

I have visited some of the largest and some of the smallest clay working plants of the country, in sixteen different states, and I have yet to find a pyrometer, a draft gauge, an Orsat apparatus or a CO_2 recorder on one and the same plant at the same time. I have never seen a hygrometer at work on

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any plant and only twice an anemometer, and I used both of them myself. I will venture the opinion that on more than half the plants of the country the above instruments could not be identified. Neither have I ever known a plant to buy its coal on a guaranteed heat unit basis, yet it has been established beyond question that fuel economy of any furnace depends upon the factors measured only by these instruments and the heating value of a fuel depends upon the heat units it will produce.

Other consumers of large amounts of fuel find it profitable to employ men who are able to check up the fuel used and get value for every dollar expended, why not the clay industry, which is the third largest consumer of coal and the greatest waster?

A Draft Gauge—Also Said to be of Infrequent Use on the Clay Plant Because of Lack of Knowledge of Application.

INSULATE KILNS TO PREVENT HEAT LOSSES

Another item of importance, not so easily corrected in present kilns, but possible of being cared for in future construction and possible of yielding a large return if cared for, is the waste by radiation. Even clay manufacturers cover boilers and steam lines. Few other industries neglect it, but brick kilns exposed to wind, rain and zero temperatures are seldom insulated. Years ago it was shown that the radiation loss of the average kiln is around twenty per cent. Aside from neglect to insulate, there is a serious loss due to pure shiftlessness.

Kiln crowns during a burn are so hot that one cannot walk upon them with comfort or safety with an ordinary shoe, but little attempt is made to stop the waste of heat. On many plants, if the crown holes are sufficiently covered to keep out most of the rain, to say nothing of keeping heat in, it is enough. On many plants it is the custom to light fires in setting a kiln when it rains, to prevent the water from spoiling the ware. Can you expect to keep heat in a structure that won't keep water out?

Kiln repairs are often so neglected, especially on multiple stack kilns, that the draft thru the kiln wall is stronger than thru the stack and much of the developed heat never gets into the kiln at all.

KILNS OFTEN INCOMPETENTLY HANDLED

With such management in the use of a simple, round, down draft kiln—and there are other abuses I have not mentioned—isn't it rather foolish to talk about spending $150,000 to $200,000 on an experimental tunnel kiln which, if installed on the average plant, would be subject to abuses and incompetence, instead of the intelligent handling it would require for successful operation.

I have in mind one continuous kiln which has never been a marked success but I was told in all seriousness that the burner changed the direction of the draft because a vine grows around a stump in that direction and he knew it would work better for that reason. I remember also a conversation with a paving brick manufacturer in which he stated that on a certain plant, so long as they kept a young fellow making gas analyses and watching the draft, they obtained wonderful fuel economy but, of course, could not keep him there all the time and the burners soon went back to the old methods. The question is *why not keep the young fellow there all the time?*

EVERY PLANT MUST SOLVE OWN PROBLEMS

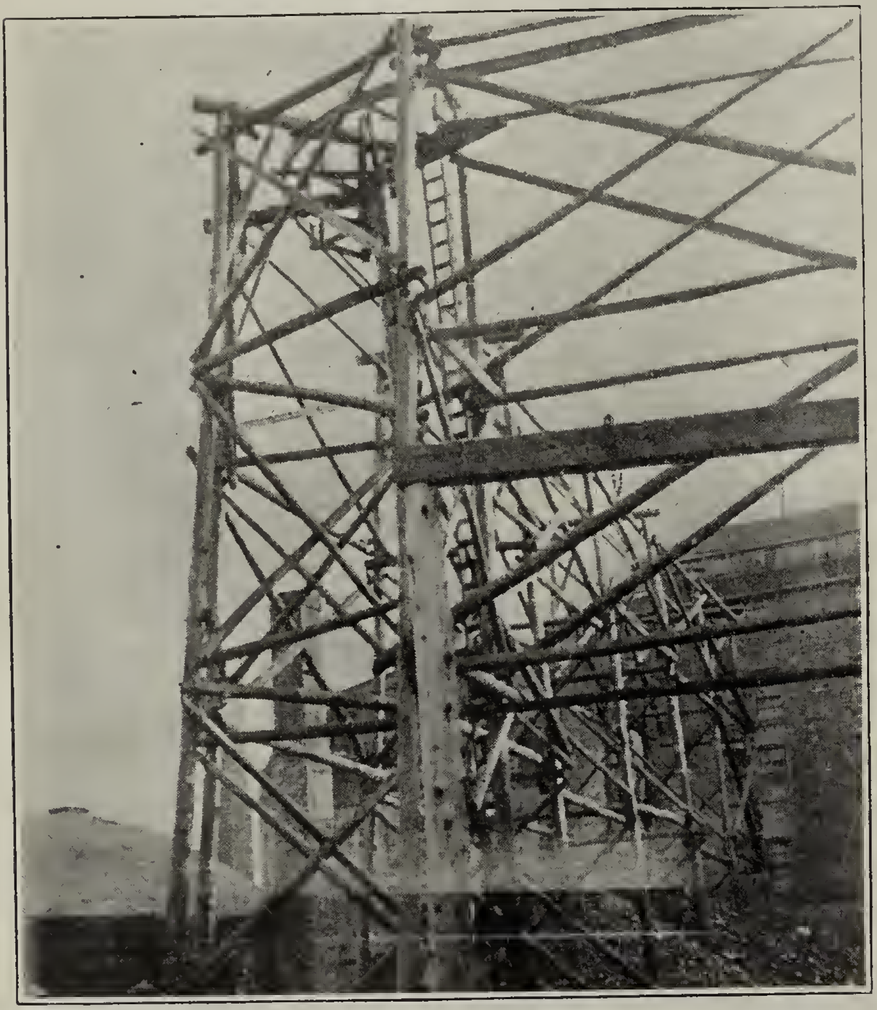
There have been many instances of loss incurred by adopting, without adapting, the processes and appliances of one plant by another. What each plant needs is the brain that can adapt. It can be had in the employment of technical men on the plants at salaries sufficient to keep them there. It cannot be had any other way and each plant, in my judgment, can and must work out its own salvation. It must put capital into brains and equipment instead of expense into common labor. Many operations can be carried on mechanically at very substantial savings. Transport of raw material, for instance, by man power and wheel barrows should be stopped, whether the handling be ten feet or one hundred. The unloading of coal from railroad cars by hand shoveling and its distribution by wheel barrow is another economic waste. But in a survey of some twenty odd plants in the Canton, Ohio, district within the past six months, I found but three using mechanical dry pan feeders and saw but one coal unloader. And with such conditions, we are asked to pile up technical information. May I ask *what for?*

CANNOT DEVISE RULES APPLICABLE TO ALL CLAYS

The results of any set of experiments can only be applied in a general way to conditions which are similar. Uniformity in a natural clay mixture is an utterly unattainable condition, even for any one given plant. Why not recognize this fact and stop talking about applying any given set of rules for die construction for instance, to the entire industry. Each new car of clay on every plant is more or less of a problem and an experiment. Who can tell whether it will grind, screen, pug, form, dry, burn or ship in any way similar to the last car mined. I admit this is extreme, but I recall a paper read in New York four years ago in which the entirely different characteristics of the chemical composition as disclosed by the microscope of two samples of paving block were very carefully described. The author stated that the two slides in question were taken one-fourth inch apart from the same paving block. For men to talk seriously of standardizing such materials in an experimental plant or anywhere else sounds rather foolish, doesn't it?

EXPERIMENT FOUR YEARS WITH DIE

Lamination is a favorite subject for study. Two types are recognized—auger and die. To standardize the auger or the die on an experimental plant would mean to meet on that plant the varying clay and the varying workmanship of every plant in the country. It is a big job on any one plant, to say nothing of a hundred. I know of experiments over a period of nearly four years to perfect a die to run a column one inch thick and six inches wide, which was run with fair success. The same type of die was lately used to run a column 1½ inches thick and nine inches wide and it failed to the tune of more than ten thousand dollars but responsibility for the failure was placed on the burner, who is the favorite goat for a great many unexplained losses.



The Dominion Sewer Pipe and Clay Industries, Ltd., of Swansea, Ont., is One Concern That Believes in Coal Handling Equipment.

I have seen both hollow ware and brick columns run perfectly for ten, twenty, perhaps a hundred feet, then suddenly rag on one, two, three or four corners,—run ragged for a few feet, heal, and go on again perfectly. What caused it? Nobody knows. Can you hope to eliminate, in an experimental plant, all the variables that might have caused it, so that you can furnish even one other plant one die that, without adjustment, positively will not rag a corner or show lamination from the time it goes on the machine until it comes off? If that cannot be done in the experimental plant, then, so far as dies are concerned, it would be a failure and a positive waste of money. Better put a man at the machine of the average plant who has the brain and training to think—a technical man, if you will, who can design, balance and lubricate a new die for that particular material with as little lost time as possible. His results will be more positive after three months observation of a particular plant's material, equipment and personnel, than those of the experimental plant in a central location could possibly be in five years.

LAMINATION OFTEN EVIDENT

It cannot be hoped to put all machinery manufacturers but one out of business, neither can it be hoped to persuade the others that any one's design of machine is best, and all dies, all augers and all plungers laminate to a greater or less degree and all clays laminate to a greater or less degree when moved thru a die by pressure. It makes no difference how that pressure is exerted, whether by auger or plunger. If the slippage of the clay particles one on another does not form bridges and gaps in the structure, the lamination may not be visible.

Few plants are free from visible lamination at intervals and few escape making a practically perfect product occasionally, but if the variable which brings about either of the above conditions on any individual plant cannot be positively spotted in from ten to twenty-five years operation, how can it be hoped to be located on an experimental plant, with perhaps enough of several kinds of raw material to run at capacity for half a day—or as any other plant, on a particular material, continuously.

IMPROVEMENTS CAN BE MADE ON EVERY PLANT

If standardized on a given material, the plant would be worth to the industry just what Tom Jones' or Bill Smith's plant is worth. It would have in it expert men in each department who could be hired away and who would run the same chance of failure on a new material that Tom or Bill's men now run. New men would have to be trained just as they have to be in Tom's plant or yours.

Each process on the average plant is subject to improvement, simple improvements too and not involving heavy outlays. Going back for a moment to the mechanical dry pan feeder, a device that has been on the market about three years. Many plants are still dumping clay crushed or otherwise on to a floor in front of the dry pans. From there to be shoveled into the pans by one, or more men, depending upon the distance and amount. By the use of a feeder the shoveling is eliminated and more than one man for half a dozen pans would be useless and the one could not possibly be kept busy.

Here's One of the Plants in the Canton District That Does Use a Coal Unloader. It is the Belden Brick Co.

REDUCE LABOR BY MACHINERY

Coal unloaders are not expensive to install or to operate, and if it is good business to unload fifty tons of coal a day by hand shovel, why would it not be good business to throw away the engine or motor and put enough laborers in a tread mill or on a crank and run the whole plant that way?

I do not wish to discourage any man or set of men from undertaking new discoveries or improvement methods, however slight the chance of adding greatly to present knowledge. Many dollars have been wasted in vain attempts to solve problems of which we are still ignorant but of all such effort some progress will be made. Men who are willing to contribute of their means in efforts bearing but little promise of results are philanthropists. But nevertheless those who are engaged in business for profit should be first persuaded to take advantage of what they now have.

The clay manufacturing industry is not so much in need of discovery as it is in need of grasping opportunity.

* * *

Present Middle Western Coal Prices

Quoting from the "Black Diamond," Chicago, the labor situation and car supply at present are such that in the event of a sudden reopening of industrial activity coal mines could meet practically any demand placed upon them for a period of weeks.

Prices for coal in the middle western and Pittsburgh, Pa., markets are as follows:

Southern Illinois, including Saline, Franklin and Williamson County, spot coal, domestic sizes, $4.15 to $4.25; mine run, $3 to $3.75; screenings, $2.50 to $3.05, with but small tonnage moving on the market; domestic sizes moving at circular, $4.15 to $4.25; steam sizes on contract, $3 to $4.25.

Indiana fields, free coal, prepared sizes, $4 to $4.50; mine run, $2.25 to $3; screenings, $1.50 to $1.75; on contract, domestic sizes, $3.75 to $5; mine run, $3.50 to $3.75; screenings $3.25 to $3.75.

Central Illinois, spot quotations, domestic sizes, $3 to $4; mine run, $2.25 to $3; screenings, $1.25 to $1.75; on contract, domestic sizes, $3.50 to $4; mine run, $3.50 to $4; screenings, $3 to $3.50.

Peoria district, spot prices, prepared sizes, $4 to $5; mine run, $2.75; screenings, $1.25 to $2; on contract, prepared sizes, $2.75 to $4; mine run, $3.25 to $3.50; screenings, $2.75 to $2.85.

Spring Valley, free coal, six-inch chunks, $5; on contract, $4.50; washed inch-and-a-quarter screenings on contract, $3.85.

While the retail price varies slightly in the Columbus, Ohio, market this is about the right basis: Hocking lump, $7.75; West Virginia lump, $8.75; Pocahontas, $11; anthracite egg, $15.75. There has been a scarcity of this latter coal in Columbus during the week.

Coke production in the Pittsburgh, Pa., market is practically at a standstill, the active ovens being but a small item compared to the number of idle ones. An occasional order for a few cars of furnace is reported here and there, but no uniform price can be quoted. Sales have been reported all the way from $4 to $4.25 up to $5, with foundry in slightly better demand at from $5.75 to $6.50, but nothing that might be called "business" seems to be in the air.

* * *

Gotham Prices Continue Downward Trend

With the Spring building season only half a month away material dealers announcing further price cuts frankly confess that they are based upon a frank bid for a prompt market, the Dow Service daily building report of February 28 says.

Latest reductions show $5 to $10 drops in flooring in the yellow pine, oak and maple departments, another sharp decline in linseed oil, a shifting in some building metals downward, a readjustment in plaster blocks and a drop of twenty-five cents a cubic yard in the price of building sand, the first change of any kind that has been reported in this department since last summer. The change has not so far affected gravel or grit. Granite and some of the building stones are quoted at prices much lower than were those ruling last autumn.

The only basic departments in which price reductions have not occured since last autumn are gravel, grit, hollow tile and crushed stone, all of them concrete ingredients excepting hollow tile. In some of these items spring price adjustments downward are anticipated. Some items in the electrical equipment department have turned upward, such as electrical porcelains and there are indications of other lines following this lead, as oak lumber already has done.

Desultory price changes may be expected to continue until June 1, but purchasers who have been shopping and studying the actual conditions controlling manufacture and distribution have become aware of the existence of a more active potential spring buying movement.

* * *

Some Tangible Results of C. B. M. A. Work

Definite idea as to just how the Common Brick Manufacturers' Association of America can make money for its members will be known by those members in a short time when they receive a unique letter telling of the value and economy thru the use of the ideal brick wall plan of the organization. This letter, a reproduction of a typewritten message, is of newspaper page size. It will be sent to all prospective members of the association.

But the association is going a step farther. Literature on the ideal brick wall is being sent out to all prospective builders, together with a complete list of members in the Association. The program is doubly important to the brick manufacturer, for it is logical to believe that the business of the prospective builder will go to a manufacturer who is named in the list.

Meanwhile inquiries concerning the ideal brick wall are being received from all parts of the country, both from the general public and members of the building industry. The Bureau of Standards attaches so much importance to the development of this method of brick wall construction that it has arranged its schedule to permit tests for both crushing force and fire, to be held at an early date at Pittsburgh. The association has been soliciting without success for a machine to test the destruction of a full sized panel, one story in height of this ideal brick wall. The machine owned by the Bureau of Standards, however, has been donated for this purpose. It has a crushing strength of 1,200,000 pounds. The wall already is in practical use in New Jersey, California and other points in the country.

* * *

Carolinas Enthusiastic Supporters of C. B. M. A.

Ralph P. Stoddard, secretary-manager, the Common Brick Manufacturers' Association of America, has returned from Goldsboro, N. C., where one of the largest district meetings of the organization yet held, was staged. Added strength for the national association comes from this meeting with the following as new members: Bennettsville Brick Co., Florence, S. C.; Grant Brick Works, Weldon, N. C.; Stevenson Brick Co., Newbern, N. C.; Faison Brick Co., Rocky Mount, N. C.; Newbern Brick Co., Peoples Brick Co., Newbern, N. C.; Pee Dee Brick & Tile Works, Blue Brick, N. C.; Nash Brick Co., Rocky Mount, N. C.; Santee River Brick Co., St. Stephens, S. C.; Layton Brick Works, Marion, S. C.; Wayne Red Brick Co., Goldsboro, N. C.; Southside Brick Works, Inc., Richmond, Va.

"LOWER PRODUCTION COSTS" KEYNOTE *of* IOWA MEETING

Iowa Clay Products Manufacturers' Association Convention Attracts More Than Fifty Delegates—Farm and Highway Drainage Questions Discussed—Need for Modern, Labor Saving Equipment Outlined

AFTER SUSPENDING MEETINGS for several years the Iowa Clay Products Manufacturers' Association held a convention in the Chamberlain Hotel at Des Moines, Ia., on Thursday and Friday, February 24 and 25, 1921. Old-timers in the Iowa association declared it one of the most successful conventions ever held by that body of clay men. Approximately fifty clay products manufacturers were present, besides a number of machinery and equipment men.

H. S. Vincent, of Ft. Dodge, Ia., president, was unable to be present and Grover Galvin of the Rockford (Ia.) Brick & Tile Co., presided in his stead. The sessions were opened Thursday morning with a few brief remarks by Chairman G. H. Galvin. Dean A. Marston of Ames, Ia., the first speaker on the program, spoke on the subject of "Drainage of Highways." The selection of this subject was a very timely one, in fact, it would be hard to find any one topic which would at present interest Iowa tile manufacturers more. Entering, as we are upon an era of road building the question of drainage must be thoroly gone into, *before* the roads are built.

THORO DRAINAGE FOR ALL ROADS

Dr. Marston, in conjunction with other experienced men in the state, is compiling data and making experiments on highway construction and drainage. The results of this work will be used to advantage in the construction of state roads. The policy of the state in the construction of its highways will be to provide thoro drainage, as it is recognized that road failures are in a great many cases caused by the inability of sub-soils to carry the loads.

The Vertical Type Tunnel Kiln and View of Smith Brick & Tile Co. Plant, Sheffield, Ia. This kiln is the Only One of its Kind and Has Not as Yet Been Perfected.

Here followed a general discussion by the delegates as to the market conditions for the immediate future. Ed. Berger, Davenport (Ia.) Brick & Tile Co., stated that he was of the opinion when things once started there would be more work than manufacturers could furnish material for. R. M. Winner of the "Improvement Bulletin," the organ of the Permanent Buildings Society, believes that an era of construction is just ahead of us which in extent will exceed all expectations. Two months is the time limit imposed upon the opening of building activity.

The afternoon session began with an address by Prof. W. J. Schlick, of Ames. The subject of his address was "The Future of Farm Drainage in Iowa." Mr. Schlick brought home his topic in a most decisive and convincing manner. The importance of Iowa as an agricultural state is in a large measure due to the amount of drain tile used on the farm lands. One-half of the state's agricultural land would be valueless and useless except as a breeding ground for frogs and mosquitoes if drain tile had not dried the soil sufficiently to make it tillable.

DRAIN TILE PRODUCE ASTONISHING RESULTS

If undrained about ten or twelve million acres now producing and being farmed would constitute a great area of unproductive waste. Farm drainage, Mr. Schlick says, is not half completed as yet, in fact only about twenty-five per cent. of the farm lands have been efficiently drained. Wherever drain systems have been installed with proper regard for soil conditions, and properly spaced, the results have been astounding. The returns on the original investment are so great that in many cases the drainage has paid for itself in the added returns of a single season's crops.

Farms with a system of drainage have more than a month longer growing season than undrained farms. It is possible for the farmer to begin earlier in the spring and to work later at the end of the season. Under average conditions it has been found that drains spaced a hundred feet apart at a depth of four feet produce very excellent results.

A. S. PLATT SPEAKS ON CLAY STORAGE

A. S. Platt, son of the secretary, C. B. Platt, gave an extremely interesting talk on "The Importance of Clay Storage." Mr. Platt is a firm believer in adequate storage facilities. Unquestionably there are many benefits to be derived from a clay storage from where the shale or clay can easily be handled. There are three distinct advantages in a storage: It offers an opportunity for more complete and efficient mixing and blending of the raw material as it comes from the pit; in storage shale or clay goes thru the process of weathering; a reserve supply is provided which will safeguard the plant from shutdown on account of a breakdown or other difficulty in the pit.

Shale deposits in Iowa are usually overlaid with clay of a quality vastly inferior to the shale beneath, Mr. Platt remarked. In many instances this overburden is but a few feet in depth in which case it is usually mixed with the shale to avoid the added expense of stripping. Thoro mixing is, of course not only desirable, but highly essential.

CLAY STORAGE MEANS STEADIER OPERATION

The most important function of a clay storage is to provide raw material when for any reason the pit is unable to produce.

With ample storage space the operation of the machines in the plant itself is not subject to the vagaries of the weather or the efficient operation of the pit equipment.

It was pointed out by Mr. Platt that in the normal year the number of working days for most clay plants does not exceed 300. Of these 300 days on at least thirty the pit is unworkable and with no storage ten per cent. of the working time must be lost.

Another talk by an Iowa clay products manufacturer was attentively listened to by the delegates. Harry Tramp of Creston, Ia., had prepared a paper on the "Working of Iowa Surface Clays," which his son, Hugh Tramp read. The paper was short but highly interesting. Among the shales of Iowa are some of the finest deposits of hard shale. Especially in Union County a very high grade of ware is turned out. Mr. Tramp brought out the peculiarities of Iowa clay and successful methods of working.

THE RADIATED HEAT DRYER

Opinions of T. J. Neiswanger of Oskaloosa and L. E. McCorkle, DeSoto, on the radiated heat dryer were heard. Mr. Neiswanger in his inimitable manner told of his experiences with all manner of drying methods from the time when brick were dried in the sun until the present system of radiated heat drying which he is employing. The drying cost with this system is approximately nine cents a ton at Mr. Neiswanger's Oskaloosa plant. It was pointed out that more efficient methods must be evolved and that some method of saving or utilizing the heat from the kilns without the big expenditure for power now necessary, must be devised.

Mr. Neiswanger is of the opinion that the present system of waste heat drying is not especially economical inasmuch as the electric power used to drive the fans, is a large item of expense.

Mr. McCorkle practically echoed Mr. Neiswanger's remarks with the exception of the item of cost. Thirteen cents per ton is approximately the cost of drying his ware, he claims. Instead of the usual twelve inches slope to every 100 feet in the ordinary dryer, Mr. McCorkle recommends that this be increased to eighteen or twenty inches and advocates an appropriate brake arrangement for the cars.

PLANS FOR NATIONAL RESEARCH WORK PROGRESSING

At this point the chairman called upon E. R. Sturtevant, secretary of the Hollow Building Tile Association, to make some remarks. Mr. Sturtevant spoke on the plans which have been made with a view to promoting research work in the clay products industry. Work has definitely begun and the four associations: The Common Brick Manufacturers' Association, the Hollow Building Tile Association, American Face Brick Association, and the National Paving Brick Manufacturers' Association, have pledged $2,500 each to be spent within the next two years. Competitive materials are constantly gaining headway and pushing clay products farther and farther into the background. Means must be evolved to lower costs of manufacturing and research work will accomplish this, provided all the branches of the industry will cooperate.

As many know, an organization known at the National Clay Products Industries Association, has been formed and is attracting members. H. A. Jung, commissioner and acting secretary, spoke before the convention and told those assembled of the purpose and ambitions of this association. It was founded primarily to promulgate the "American plan" or open shop, however, the association is not anti-union, but rather hopes to be, in the words of Mr. Jung, "a balance wheel between employer and employe." Another object of the association is to train employment managers to hire men who would be of greatest benefit to them, and to distinguish between good workers and otherwise.

85 PER CENT. OF ENGLISH WORKERS ORGANIZED

Mr. Jung intimated by comparison, that it is not necessary for men to organize to obtain livable working conditions. But six per cent. of the workers in America are organized as against eighty-five per cent. in England. Working conditions in England are not so good as in this country. Mr. Jung urged every one to join the association.

The meeting adjourned with Mr. Jung's talk and sessions were suspended until the following day, Friday.

On the morning of February 25 automobiles were waiting to take the conventioners to view the clay plants in Des Moines. The first plant visited was that of W. H. Brecht, known as the Flint Brick Co. This plant is an example of what modern methods can do. An Eagle shale planer furnishes more than sufficient raw material for the plant. A monstrous belt conveyor is at present being put in and will be tried out shortly. A clay storage with sufficient capacity to hold material for 2,000,000 brick insures a source of supply for the machines sufficient for any emergency. The Flint Brick Co. makes almost exclusively a high grade of paving brick. Other plants visited were the Des Moines Clay Co. and the Capital Clay Co.

View of Immense Stock Pile of Drain Tile at the Plant of the Sheffield (Ia.) Brick & Tile Co. Approximately 4,500,000 Tile are Piled up in the Company's Yards.

DELEGATES HEAR TALKS ON TUNNEL KILNS

The delegates were back at the hotel again before the morning meeting was called to order. The opening address was delivered by R. W. Steere of the American Dressler Tunnel Kiln and proved to be a very absorbing presentation on the workings of a Dressler tunnel kiln. The savings in time, fuel, and the uniformity of ware turned out were graphically related. Mr. Steere made the rather astonishing statement that in most cases the installation of such a tunnel kiln has returned the original capital invested in less than eighteen months time and some instances twelve months have been sufficient to accomplish this.

This was the first time probably, that clay men had a chance to have the operation of the Smith Brick & Tile Co's. vertical type of kiln at Sheffield, Ia., explained. O. J. Whittemore, who worked with Claude Smith in the designing and building of the kiln, delivered the talk. The kiln, officially known as the "True to Nature" kiln, was built something like three years ago and is not as yet completely perfected. According to Mr. Smith the horizontal movement of air in the tunnel kiln is a wrong principle and that the natural way is to provide a way for the air to circulate upward.

VERTICAL KILN BURNS IN THIRTEEN HOURS

The vertical kiln consists of two tubes 3′-6″x7′-0″. One tube is used for watersmoking and the other for burning. The brick travel up the first tube on steel pallets and are subjected to a heat of from 450 to 500 degrees F., arriving at the top they are moved over to the other tube where the steel pallets are removed and the brick set upon the column of brick below. There is no metal used in this tube, which is subject to the intense burning heat. At the bottom of the second tube the brick are taken out one unit at a time, the column being supported by bars. The entire process of drying and burning requires about thirteen hours time, from the time a unit of brick enters the kiln until it is taken out.

The kiln is essentially a brick kiln and was built at a cost of approximately $30,500. Crude oil is used for burning, but powdered coal and producer gas can be used for fuel. About one and one-half barrels of oil is required to burn a thousand brick. There are four fire boxes, one on each side and on each end. The passage of the heat is from the bottom of the burning tube upward, at the top it is drawn off and a part of it is drawn into the watersmoking tube. The drying operation is not performed in the kiln but in periodic waste heat dryers.

HOPE TO PRODUCE 50,000 DAILY

While drying in the kiln itself maximum capacity did not reach over twenty or twenty-five thousand brick per day, and it was found more practicable to dry the brick before they entered the kiln. It is hoped that a production of 50,000 per day will be reached.

Following the discussion on kilns, H. R. Straight of the Adel (Ia.) Clay Products Co., spoke on "Labor Saving Devices." Mr. Straight, one of the far-seeing men in the industry, realizes that clay products can not be made on a profitable basis unless production costs are lowered. Efficient labor-savers help a great deal in this matter. Get your clay into the plant in as nearly a workable condition as possible, thereby saving time and fuel. A thoro mixture is desirable and can be obtained by a planer very economically. Mr. Straight believes that for longer hauls the motorized car system is the cheapest clay hauling device.

THINKS DRY PAN WILL BE SUPPLANTED

Another method of reducing production costs appreciably is the storage shed. Continuous operation is more nearly assured with adequate storage. In Mr. Straight's opinion the elimination of the dry pan will soon be effected thru the advent of rock crushing rolls. A good plan might be to use two sets of rolls, graduated, one of large diameter and the other smaller.

Engineering brains will soon evolve a machine capable of doing hackers' work. In the opinion of Mr. Straight this would not be as difficult as some of the work machines are perfoming in other industries. Before very long the modern, up-to-date plant will use the tunnel kiln with an overhead crane to handle the ware from the kiln to the cars or trucks.

Iowa Conventioners Had an Opportunity to See This Hydraulic Method of Stripping Overburden in Operation at the Flint Brick Co.'s Plant at Des Moines.

Mr. Straight believes that in order to increase hollow tile's popularity the manufacturer must make it easy for the builder to use his product and one way of doing this is to furnish drawings showing the proper method of laying the tile in the wall.

ADVISE BUILDING MODEL FARMSTEAD

The opening of the afternoon session was marked by the address of Ned Pearson, an architect and landscape artist. Mr. Pearson spoke on the use of hollow tile for farm buildings. The three most important things a farmer considers are economy of space, convenience of operation, and cheapness in construction. A big opportunity for some fine advertising is offered by the Iowa State Fair. Mr. Pearson advocates the building of a model farmstead of hollow tile on the fair grounds, with buildings of actual size and fully equipped. To this end it is necessary to cooperate with other firms such as plumbing, wire, post, gasoline engine and other manufacturers. Such an effort would greatly stimulate sales and be a mighty piece of advertising.

W. J. Goodwin, Des Moines, in a good, common sense talk on the "Situation in General," recounted some of the past developments in Iowa, in the use of hollow tile, drain tile and other clay products. The potential market for clay products is as great as ever and with the loosening of the money situation, which is bound to occur before very long, this market will once more be evidenced in increased orders on the manufacturers' books.

MUST BE ABLE TO COMPETE WITH BRITAIN

Touching on the labor situation, Mr. Goodwin said that labor need not come down below a level where we can compete with England and that England's wages will not come down. During the past few years Iowa has had better business than ever before and now the time has come when every man will get what he earns and no more.

The question on increased freight rates was then taken up. At a gathering of manufacturers it was found that rates had increased 100 and 115 per cent. and it was decided to try and secure a reduction from the interstate commerce commission. In order to properly present the claims of the manufacturers adequate funds are necessary. A Mr. Olsen has been retained as attorney to present the case. Mr. Olsen has had wide experience in rail rate cases and has a fine reputation as a competent lawyer.

It has been decided to assess every plant manufacturer $20 per kiln to cover expenses in the freight rate fight. A reduction of forty per cent. will be asked for from the commission.

REFUSES TO SUBMIT TO UNION DICTATION

In a short talk W. H. Brecht, of the Flint Brick Co., Des Moines, Ia., said that he believed manufacturers were getting but sixty to sixty-five per cent. efficiency from their workers.

The marketing of paving brick, Mr. Brecht says, is in many respects an extremely difficult job, politics enter into it to such an extent that when a salesman comes in with an order in his pocket the first question is "What did it cost you to get it? Who did you have to 'fix'?" During the past years the Flint Brick Co. has been continually harassed by the demands of union delegates and the company has now been soaked up with union dictation and arrogance. The company has definitely stated to the unions that henceforth it proposes to run its own plants in the manner in which it sees fit, and that the concern will not attempt to turn a wheel under any other circumstances.

Mr. Ramsay of the Bay City (Mich.) Dredge Works spoke on the subject of the "Clay Excavator in Small Capacity Plants." It is entirely practicable for the small operator to win his clay by machine rather than by the expensive and uncertain methods of hand-digging. The Bay City Excavator is not on the market very long but manufacturers using it have found it meets their requirements. The excavator can not be used in connection with shale.

ELECTION OF OFFICERS

R. W. Tuller, Reliance Brick Co., Des Moines, took a few minutes to say a little on the comparatively new material called "Haydite." It is a burned clay aggregate for concrete. This material, it is claimed by its inventor, Stephen J. Hayde, will revolutionize concrete construction.

The election of the following officers was announced: President, Grover H. Galvin, Rockford (Ia.) Brick & Tile Co.; vice-president, H. I. Moore, Hawkeye Clay Works; treasurer, H. R. Straight, Adel (Ia.) Clay Products Co.; secretary, C. B. Platt, Platt Co., Van Meter, Iowa.

The social side was not neglected at the convention and inasmuch as no convention is complete without a banquet, this ceremony was not omitted. The banquet was held Thursday, February 24, at the Chamberlain Hotel and Ralph Tuller of the Reliance Brick Co., acted in the capacity of toastmaster. No speeches were held and the affair was very informal. Later in the evening a dance in the hotel ballroom was participated in by most of the delegates.

The 1921 convention was concluded with a few appropriate remarks by C. B. Platt, secretary of the association, and one of the best known and liked clay men in the state. Mr. Platt expressed the wish that he would be able to greet everyone present at next year's convention.

U. S. G. Williams, Mt. Pleasant, Iowa.
Frank D'Autremont, Monticello, Iowa.
Ernest Hix, Dysart, Iowa.
C. G. Keiser, Dysart, Iowa.
C. C. McDermott, Brown Instrument Co., Chicago.
A. N. Stauffer, Gladbrook, Iowa.
Herbert V. Kaeppel, Brick and Clay Record, Chicago.
George M. Stauffer, Gladbrook, Iowa.
A. J. Shamson, National Clay Works, Mason City, Iowa.
C. C. Carhart, Sheffield (Ia.) Brick & Tile Co.
C. A. Reaver, Eldora (Ia.) Pipe & Tile Co.
Ed. Berger, Davenport (Ia.) Brick & Tile Co.
H. R. Straight, Adel (Ia.) Clay Products Co.
R. W. Tuller, Reliance Brick Co., Des Moines, Iowa.
J. F. Nelson, The Capital Clay Co., Des Moines, Iowa.
W. J. Goodwin, Goodwin Tile & Brick Co., Des Moines, Iowa.
R. W. Steere, American Dressler Tunnel Kiln.
A. S. Platt, Platt Co., Van Meter, Iowa.
O. N. Heldebrant, Garrison (Ia.) Brick & Tile Co.
G. H. Galvin, Rockford (Ia.) Brick & Tile Co.
O. J. Whittemore, Sheffield, Iowa.
E. R. Sturtevant, Hollow Building Tile Association, Chicago.
H. C. Pearson, Maxwell, Iowa.
George Kornegois, Rockford, Iowa.
Anson Marsten, Ames, Iowa.
W. J. Schlick, Ames, Iowa.
G. S. Brubaker, Hadfield-Penfield Steel Co., Peru, Ill.
L. Haigh, Hadfield-Penfield Steel Co., Bucyrus, Ohio.
D. C. Haeger, Aurora, Ill.
J. F. Chamber, The Fate-Root-Heath Co., Plymouth, Ohio.
Chas. G. Sherman, Main Belting Co.
C. J. Brecht, Boone Brick, Tile & Paving, Boone, Iowa.
T. J. Neiswanger, Oskaloosa, Iowa.
R. E. Neiswanger, Harvey.
C. L. Bixter, Globe Machinery Co., Des Moines, Iowa.
F. W. Swanson, Des Moines, Iowa.
R. M. Winner, "Improvement Bulletin," Minneapolis, Minn.
H. L. Tramp, Creston, Iowa.
Hugh Tramp, Creston, Iowa.
J. G. Parks, Ottumwa, Iowa.
H. I. Moore, Ft. Dodge, Iowa.
Geo. L. Schnurr, Kalo Brick & Tile Co., Ft. Dodge, Iowa.
H. Bohlmann, Hawkeye Clay Works, Ft. Dodge, Iowa.
E. P. Bradshaw, Bradshaw & Co., Ft. Dodge, Iowa.
C. J. Weston, Ft. Dodge, Iowa.
S. A. Martin, Centerville (Ia.) Brick Co.
Jno. F. Slater, Grateless Furnace Co., Des Moines, Iowa.
Daniel Goodwin, Des Moines, Iowa.
L. C. Hulse, Platt Co., Van Meter, Iowa.
J. J. Reaver, Iowa Pipe & Tile Co., Des Moines, Iowa.
E. Emmert, Des Moines, Iowa.
H. R. Chamberlain, Woodward, Iowa.
H. A. Heil, Des Moines, Iowa.
H. E. Hole, Des Moines, Iowa.
Ned Pearson, Maxwell, Iowa.
M. L. Straight, Adel, Iowa.
Paul Lowry, Des Moines, Iowa.
John L. Heim, Dubuque, Iowa.
George W. Aulmann, Des Moines, Iowa.
Theodore Aulmann, Des Moines, Iowa.
W. H. Brecht, Des Moines, Iowa.
H. L. Sani, Des Moines, Iowa.
E. W. Bloedorn, Thew Shovel Co.

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KENTUCKIANS REVIEW TRADE CONDITIONS

IT WAS an enthusiastic crowd of eighteen brick and clay men who gathered together February 23 at the Louisville Old Inn Hotel, and it brought out vividly that the organization in its few short years has developed to a point where its members await eagerly these annual gatherings, and discussions of shop affairs. Several new faces were present at the meeting, and the round table discussions were lively.

The first session was held in the morning, with a noon luncheon, and a second session in the afternoon, at which time officers were elected for the year. These officers are: President, F. C. Klutey, of Henderson; vice-president, A. H. Schneider, Nicholasville; treasurer, T. Bishop, Louisville; secretary, re-elected, J. C. Crow Taylor, Louisville. Directors for three years—James T. Howington, Louisville; M. J. Bannon, Louisville; L. Rubu, Providence. H. C. Cramer, of Lexington, Ky., was elected to the directorate, to fill the position of T. Bishop; Louisville, who was made treasurer. The directors whose term expires in 1922 are H. C. Cramer, W. H. Hall, Maysville; G. R. Ermann, Calhoun. Those whose term expires in 1923 are J. H. Clark, Owensboro; George H. Dalton, Hopkinsville; and H. C. Kleymeyer, Evansville, Ind.

PRESIDENT UNABLE TO BE PRESENT

James T. Howington, of Louisville, president of the association, was unable to attend the meeting, having been called to Texas for a conference of directors of the Coral Ridge Clay Products Co. Harry C. Cramer, of Lexington, a director, former president, and one of the live members, was detained in his home town, and unable to be present. F. C. Klutey, vice-president, from Henderson, presided.

Among members present for the first time were J. D. Bobbitt, of the Madisonville (Ky.) Drain Tile Co.; B. F. Kincaid, of the Kincaid Brick Co., Rosehill, Va., formerly the Rosehill Brick Co.; L. L. Richardson, Barbourville (Ky.) Brick Co.; A. G. Shields, manager of the West Point (Ky.) Brick Co., and a representative of the Falls City Hydraulic Brick Co., of Jeffersonville.

BRICK WILL SOON BE DOWN TO ROCK BOTTOM

Considerable discussion was heard concerning traffic conditions, car supply, coal supply and prices, labor conditions, and so forth, during the year, and improved prospects for this season. Most of the members in discussion of the labor situation felt that the prices of common labor would be somewhat lower while reduced cost of fuel would be another thing that would aid in lowering the cost of brick and clay products, and enable the manufacturers to get back to rock bottom basis. It was held that it was largely a question of general building materials getting down to rock bottom, wherever that level lies, and staying there, in order that the public may be interested in building now. Rock bottom is a different question in different cities, based on conditions of labor, and high freight rates on short or long hauls.

Members from Louisville were generally optimistic concerning local business, there being a good deal of business in sight, and very fair prospects as a whole. It was held that out in the state prospects were very uncertain due to low prices paid the farmer for grain, tobacco, cotton in some sections, and livestock, along with other farm products, whereas high prices continued for most of the merchandise and equipment that the farmer needs.

DRAIN TILE MEN REPORT POOR BUSINESS

Drain tile manufacturers reported poor business in the country, as it was impossible to interest farmers in tiling land, many of them not being in any position to tile at this time even if prices were low, due to losses accepted on 1920 crops.

H. C. Kleymeyer, of Evansville, Ind., who recently attended the national meeting, in talking before the state association, said that if there was any kind of demand developed at all, and he felt sure it would be a good one, that there would be much activity in the brick trade, as there are no large stocks of brick, hollow tile or other products in the hands of the manufacturers, there being more plants idle today, and less stock on hand than for years past, due to refusal of manufacturers to put high priced labor and fuel into brick without knowing what conditions would be like this spring.

FEW PLANTS WORKING IN STATE

Most of the reports from individuals in the round table discussions, and in reports from one member after another, showed that most plants are idle at this time. Prospects are favorable for prices to be reduced shortly, if coal prices continue low, and it is felt that prices can be reduced without the necessity of raising them almost immediately.

A resolution was adopted expressing sympathy in connection with the death of A. F. Kleymeyer, of West Point Brick Co., who was treasurer of the organization at the time of his death.

L. M. Parsons, formerly with the Union Cement & Lime Co., Tyler Building Supply Co., and R. B. Tyler Co., who has been out of the brick game for two or three years, was present, having re-entered a short time ago, when he established the building supply and brick departments of the R. C. Tway Coal Co.

* * *

British Empire Has Fifth of World's Coal

A survey issued by the Mineral Resources Committee of the British Imperial Institute estimates that the British Empire possesses about twenty-three per cent. of the toal coal resources of the world. These total resources are placed at 7,397,553 million tons (metric), of which 1,729,105 million tons are credited to the British Empire.

The detailed figures indicate that the greater part of the Empire's mineral reserves consist of sub-bituminous and brown coal, and lignite. Bituminous coal resources amount to about forty per cent. of the total and anthracite constitutes seven per cent. The estimates of British coal resources are as follows in million tons (metric): Anthracite, 25,836; bituminous, 717,005; sub-bituminous, lignite, and so forth, 986,264.

Canada leads in Empire coal reserves. It is estimated to possess more than one-third of Britain's bituminous and over ninety per cent. of her sub-bituminous coal, and lignite. Anthracite reserves are almost evenly distributed in the United Kingdom and British Africa. The bituminous coal reserves of Australia are stated to be 132,250 million tons, compared to 178,176 million tons for the United Kingdom.

The estimate indicates that the combined anthracite resources of the United Kingdom, Canada and Africa exceed those of the United States by six million tons. In total coal resources, however, the United States is estimated to have 3,838,657 million tons, or more than half of the world's mineral fuel wealth.

* * *

Status of Federal Reserve Banks Improving

A statement of bank debits, issued by the Federal Reserve Board shows that the aggregate debits to individual accounts, as reported for the banks in 154 of the country's leading clearing house centers for the week ending February 9. were $7,406,000,000 or $1,173,000,000 less than for the preceding week.

The board's consolidated weekly statement issued February 11, indicates gains of about $10,000,000 in gold and of $16,100,000 in total cash reserves, accompanied by a reduction of $25,300,000 in Federal Reserve note circulation and an increase of $25,600,000 in deposit liabilities. The reserve ratio shows a further rise for the week from 49.3 per cent. to 49.6 per cent.

The Federal Reserve Board at the same time issued a consolidated statement showing the condition on February 4 of 828 member banks in leading cities. This indicates aggregate reductions of $31,000,000 in the total loans and investments, accompanied by a decline of $8,000,000 in borrowings from the Federal Reserve banks.

* * *

Institute Not to Have School of Mines

The bill in the Indiana Legislature which would have created a school of mines at Rose Polytechnic Institute in Terre Haute, Ind., under which department there would also have been a special division devoted to shale and clay, was killed by a narrow vote in the Senate recently.

* * *

Demand for Refractories Slackening

Altho the present dull period in the steel industry is the proper time to make needed repairs such as relinings for furnaces, no large number of orders for refractories are being placed. Not many new orders for replacement of blast furnace linings have been placed. These orders are expected however, and make the outlook for the refractories manufacturer more bright. The demand for ladle linings is slightly better and inquiries have been received by several manufacturers for 100,000 to 300,000 fire brick. These inquiries represent spot requirements.

By-product coke oven and open-hearth furnaces have experienced a curtailment in operations and this has been reflected in a decreased demand for silica brick. Prices in Missouri effective February 1 on No. 1 grade fire brick were reduced from $45 and $50 to $37.50 and $40 while the $55 and $60 grades have fallen to $42.50 and $50. Maryland manufacturers of fire brick have reduced prices from $5 to $10 per ton to $45 and $55 on No. 1 and $35 to $40 on No. 2.

Some kilns in the Maryland territory are said to be operating on an average of about eighty per cent. while the demand for their products does not exceed sixty per cent. Demand for brick for malleable furnaces continues limited. The glass industry still takes a fair amount of bauxite brick.

REFRACTORIES

Fire Clay Brick

(Per 1,000 f. o. b. works)

Pennsylvania, No. 1	$40.00 to $50.00
Pennsylvania, No. 2	30.00 to 40.00
Ohio, No. 1	40.00 to 45.00
Ohio, No. 2	35.00 to 40.00
Illinois, No. 1	40.00 to 45.00
Illinois, No. 2	30.00 to 35.00
Kentucky, No. 1	40.00 to 45.00
Missouri, No. 1	37.50 to 40.00
Missouri, high grade	42.50 to 50.00
Maryland, No. 1	45.00 to 55.00
Maryland, No. 2	35.00 to 40.00

Silica Brick

Pennsylvania	$45.00 to 50.00
Chicago	55.00 to 60.00
Birmingham	50.00 to 55.00

Magnesite Brick

(Per Net Ton)

9x4½x2½	$100.00

Chrome Brick

(Per Net Ton)

9x4½x2½	$80.00 to 90.00

Bauxite Brick

(Per Net Ton)

55 per cent	$35.00 to 40.00
76 per cent	85.00 base

STRIP OVERBURDEN *and* DIG CLAY *with* DRAGLINE

How a Missouri Drain Tile Plant Reduced the Cost of Winning Clay from One Dollar Per Cubic Yard to Fifty Cents

WAY DOWN IN SOUTHEASTERN MISSOURI, on the opposite side of the Mississippi River from that part of the State of Illinois frequently referred to as "Egypt" there is a drain tile plant that has an interesting story to tell concerning its method of winning clay. The establishment is known as the Post Brothers Tile Co., and has consistently served its community and surrounding territory well with high-class drain tile. Its factory at Commerce, Mo., has the reputation for many miles around, as being one where modern methods of manufacture that would cut production costs were always sought—methods which in turn would enable the company to offer the trade a better product at a lower price.

For a long time, the managers of the tile manufactory have had in mind installing some system of winning their clay that would be more efficient than the hand digging, mule and car method. They realized hand labor under present conditions must be tabooed wherever possible. A reduction in the labor required to mine and transport the clay was demanded and this could only be accomplished by introducing some machine that would do the work of human hands and do it efficiently as well as with an accompanying reduction in costs.

MANY METHODS OF WINNING CLAY IN USE

Being progressive business men desiring to choose the form of equipment that would serve the plant conditions best, the managers considered carefully the various methods in use on the modern clay plant for winning the raw material. Now there are all kinds of different classes of machinery used for this purpose on the clay plant and each machine serves best under its particular adaptation. No one type of machine can be said to fit perfectly the needs of every clay plant as regards the digging of the raw material. The factory of the Post Brothers Tile Co. is an average size one in the field of drain tile manufacturers. Their slogan is "Drain Your Land Before It Drains You," which many will agree is a very apt one. The clay used in the manufacture of the hollow cylinders is found in hills in fairly close proximity to the plant. A thickness of six to eight feet of overburden which must be removed, overlies that clay which is suitable for using in making a first-class tile. This material is a very tough but soft shale which is not handled without some difficulty. Furthermore, the deposit is of hilly topography and offers some problems due to that condition.

INSTALLS SAUERMAN DRAGLINE

After due consideration of the various methods that might be adapted to the peculiar conditions existing on this plant, it was decided to experiment with a Sauerman dragline cableway excavator. The proposition was really an experiment at the start, but the results soon proved so satisfactory that the experiment soon resolved itself into a permanent and cost reducing method of winning the clay at this particular factory.

It is interesting to note the experience the plant had in making the installation. M. P. Post, president of the concern, states: "We installed a Sauerman one-third cubic yard bucket for digging our clay and for a mast we cut a sixty-foot cypress pole which we hauled to the job from a swamp about five miles distant. We used a log wagon for this purpose and after tearing up three wagons we finally got the pole on the job."

The bucket is operated on a 500-foot cable track and the dragline cableway is operated by a seven by ten double drum steam hoisting engine.

ARRANGEMENT OF DRAGLINE NOT IDEAL

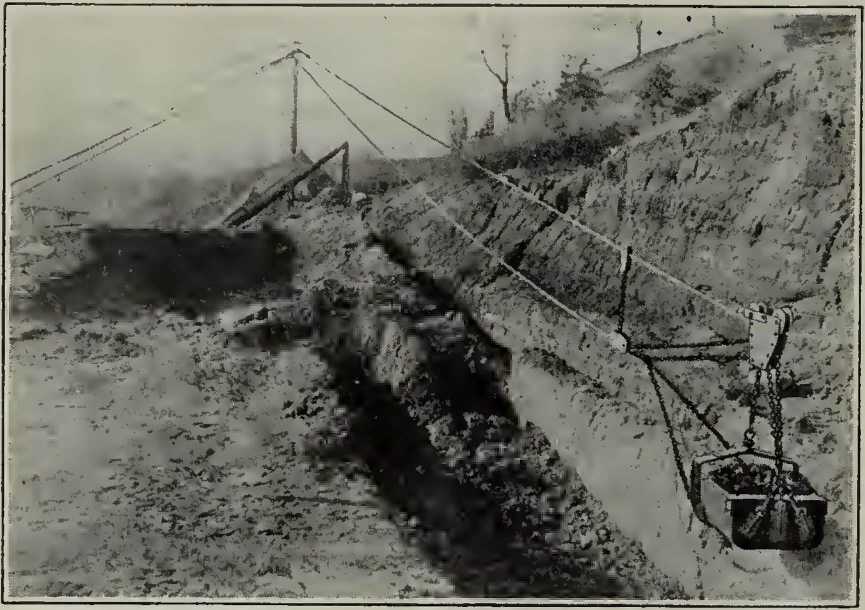
It did not take long to install the outfit, but owing to the location of the deposits of the clay the best arrangement was not possible. Several small banks of clay similar to the present one in use, have previously been worked out. These deposits were all located within a radius of perhaps one-half mile of the factory. If the clay had all been in one large deposit, the plant might have been located alongside the pit, in which event the cableway excavator could have conveyed the clay right to the storage shed, eliminating the intermediate haulage system. As the conditions are now, the dragline cableway delivers the clay to a hopper located 1,100 feet from the plant.

General View of Dragline Cableway Installation and Clay Pit with Trench Already Dug.

The method of operation is very simple, and may be described as follows: First the overburden is stripped off and when a good size area of clay is exposed, the clay is gathered by the same machine. At first a little difficulty was experienced in digging the shale which is quite tough owing to the fact that the teeth on the bucket did not work into the clay very well. However, after the addition of two side cutter knives to supplement the regular teeth on the lip of the bucket, the difficulty was relieved.

LOAD CAN BE DUMPED ANYWHERE ALONG THE LINE

The overburden is dumped at the foot of the mast which is set about 100 feet beyond the hopper. When digging the good clay, the stop button is placed on the cable track at a point over the hopper, so that the bucket is caused to dump its load onto the hopper. When digging the overburden, the stop button is moved up to a point close to the mast and the bucket travels on beyond the hopper and dumps its load onto the spoil pile.



A Close-up View of Bucket Showing Part of its Equipment. Note Hopper in Background.

As the digging of the clay progresses they continue to dig along the same line until a trench thru the clay is formed. When they get to the bottom of the clay, they start to shoot down the sides of the trench with powder. This loosens up the clay considerably and the gathering of the clay operates splendidly and with simplicity.

The clay that is used in the composition of the drain tile and which is dumped onto the hopper is conveyed to the plant by means of clay cars. The hopper is a large incline constructed of heavy wooden timbers and at the lower end it is built so as to form into two chutes. A track upon which the clay cars operate runs to each chute. The cars are of one yard capacity and side dump type and are placed beneath either chute of the hopper and loaded with clay. The raw material simply falls into the cars by gravity when a lever is raised which opens the chutes.

EQUIPMENT DISPLACES FOUR TO SIX MEN

The loaded clay cars are hauled by mule a distance of 500 feet to the foot of the incline leading into the plant. At this point the cars are detached from the mule and hooked onto a cable hoist. The cars are drawn up a 600-foot incline by means of the cable hoist and dumped into the storage shed where at the present time approximately 1,500 yards of clay are at hand.

This same car haulage system for taking the clay to the tile plant was used before the dragline cableway excavator was installed, only then the track ran right down into the clay pit, and the cars were loaded by hand, requiring the labor of four to six men with picks and shovels. Now one man, operating the cableway gets out all the clay the plant requires, and frequently accomplishes this with a half day's run of the machine.

CUTS COST FIFTY PER CENT.

Before the installation of the dragline excavator and under the pick and shovel method of digging, the clay was costing the Post Brothers Tile Co. over a dollar a yard in the shed. The installation of the excavator, however, has cut the cost in half and the results are regarded as highly satisfactory. Furthermore, in the past, operations in the pit had to be suspended at times of high water or when it became flooded. The drag line excavator will dig the clay regardless of water being present and operations are not suspended.

Recently, the dragline excavator had excavated and loaded eighty cubic yards of clay in ten hours, but as the tile plant only uses about fifty cubic yards per day, the equipment is seldom operated at its full capacity and frequently it is operated only five or six hours, when the operator shuts it down and turns his attention to other work around the factory. It is apparent that this size cableway could cut the cost of handling clay much more than one-half if the tile plant required seventy-five instead of fifty cubic yards of clay per day. It is feasible to cover a span of 800 feet with this type of cableway.

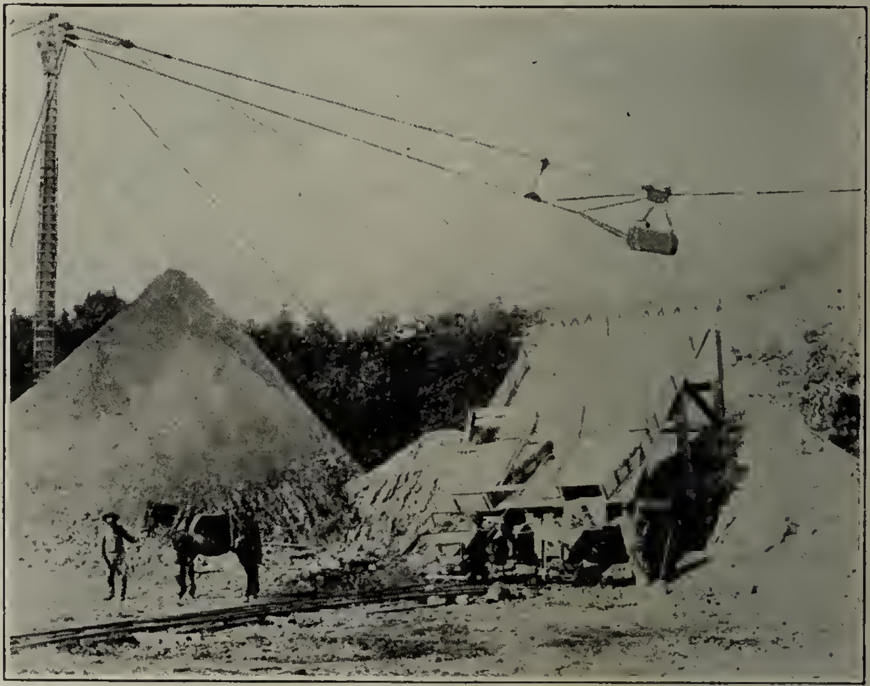
* * *

Big Fire Losses Due to Defective Chimneys

In the January issue of the National Board of Fire Underwriters' news organ some startling facts about fire losses occurring annually in the United States are brought out. The aggregate fire losses from 1915 to 1919 totaling $1,416,375,845, or nearly enough to build the Panama Canal four times over, are staggering, at the least.

In the analysis which covers 3,500,000 adjustment reports, electricity is found to have been the cause of more losses than any other agent, showing to its discredit a total of $84,086,471. Second in the list was matches-smoking with an amount totaling $73,474,348 for the five year. *Defective chimneys and flues* held third place with a total of $56,650,915.

Properly constructed and properly lined chimneys would unquestionably have prevented the greatest part of the enormous loss due to defective chimneys. The possibilities for the clay products manufacturer in this field should not be overlooked.



Spoil Pile is on the Left and Method of Transferring Clay from Bucket to Clay Cars by Means of Hopper and Chutes is Shown.

* * *

Refractories Association Meeting in New York

Announcement is made of the meeting of the Refractories Manufacturers' Association. The meeting will be held at the Pennsylvania hotel, New York City, March 17 and 18.

MEET *to* INSPIRE CONSTRUCTION ACTIVITY

National Federation of Construction Industries in Conference Held in Chicago Realize Need for Restoring Public Confidence in Stability of Construction Costs

IT IS FELT that much good resulted from the Chicago conference of the National Federation of Construction Industries, which was held at the Hotel Sherman, March 2 and 3. Several hundred men actively interested in the resumption of building activities were present at this gathering, which attracted men from all over the country to Chicago.

Consideration of corrections that would have to be applied to start the wheels of the construction industry going again, were given much attention. The chief point brought out was that the public must be educated in having confidence in present stabilized construction costs and that everything must be done to reduce the fear on the part of buyers and lenders of a decline in the current costs of construction.

The salient points brought out at the conference are contained in the resolutions which are printed below.

TO INFORM PUBLIC THAT PRICES ARE NOW STABLE

Resolved, that it is eminent to the revival of construction activities, that early steps be taken to inform the public fully as to the situation with aspect to building materials. To that end first, manufacturers, producers and distributors of building materials are urged to take such future deflations at this time as may be possible and based thereon announce selling prices in which the public may be justified in having confidence, and second, having established definite price levels that the respective manufacturers prepare promptly definite statements to be used to explain to the public the elements of increased cost over which the manufacturer has no control and which justifies the increase in selling price over pre-war where such increases exist.

Resolved, that contractors, and builders, employers and others interested who are affected proceed to the creation of a basis of labor cost, which will be in conformity with present conditions and requirements, for the reestablishment of industry. By this it is intended that wages shall be properly readjusted; irregularity of work and instability of labor, such as that caused by jurisdictional questions. The sympathetic strikes will be eliminated, that rates of production or efficiency of labor be improved; that methods used by contractors or other employers be so arranged as to eliminate waste of effort, and make possible maximum products with minimum effort; and that employers readjust their profits and overhead expenses to conform with present conditions.

FINANCIERS SHOULD ACCEPT SMALLER PROFITS

Resolved, that while a universal deflation is in progress the financial interests from whom loans are made to enable building to be undertaken should do their part in accepting a properly proportionate recession in profits, and should, in view of the vital place in business life occupied by the building trades, furnishing as they do a barometer to general business activities in the United States, make a specially liberal provision for financing building construction in the communities which support them and their allied financial institutions.

Resolved, that it is the sense of the conference that savings banks and similar institutions, who safeguard the savings of the mass of the people should devote large percentages of the funds within their keeping to the purchase of local mortgages.

Resolved, that it is the sense of the conference that the lack of construction work on the part of the railroads themselves, and the high rates, are both serious impediments to the prompt reestablishment of the construction industry. The conference, therefore, suggests that the railroads in connection with costs, which will place the railway situation in a better economic position both with regard to their own activities and rates for construction supplies.

ASK FUEL INTERESTS TO REDUCE PRICES

Resolved, that as fuel, like transportation forms an important item in construction costs, the mining interests are asked to deflate mining costs in labor and materials to a point where fuel prices can be materially lowered.

Resolved, that it is the sense of the conference that the Government of the United States, states, and of the several sub-divisions thereof, must promote public economy where taxes may be materially lowered before there can be a substantial and sound return of industrial prosperity, including that of the construction industries.

The following resolution sets forth the creation of facilities and suggests methods for continuing national and local activities for improving the conditions of the construction industry and carrying out the recommendations of this conference:

Resolved, that this conference call upon local communities to enter upon activities for making effective the purposes for which this conference was called: That is, namely to restore activities in the construction industries upon a sound economic basis.

CENTRAL DIRECTION COMMITTEE APPOINTED

Be it resolved that a central direction committee be appointed by the National Federation of Construction Industries, of which its president shall be chairman, to act in a directive capacity with regard to such activities as are specified herein. This committee shall contain, as far as possible, representation of the several large elements entering into the construction industry. The committee shall also aid in the formation of such local committees and organizations as are necessary for carrying out the purposes of the conference. It shall act as a central source of information and clearing house for local activities, shall cooperate with other organizations and shall take such other action, under the direction and approval of the National Federation of Construction Industries, as may seem, in its judgment, apt to promote the purpose for which the conference was called.

Resolved, that this conference recommends that national organizations and local communities cooperating in the movement outlined in its resolutions, join in bearing the expenses incident thereto and which must of necessity be incurred by the National Federation of Construction Industries in the performance of the functions laid upon it.

BEST INTERESTS OF PEOPLE AT HEART

Resolved, that the proceedings to this conference be printed and sent to those interested and shall include such parts of the Philadelphia Conference proceedings as the chairman of the direction committee deems desirable.

Resolved, that it is the sense of this conference that, because of the necessity for the renewal, as promptly as possible, of construction activity upon a basis in the reasonable performance of which the public may have confidence, therefore all organizations or individuals associated therewith, in any manner should exercise the utmost care that these industries may be developed in a way that is distinctly to the best interests of the people as a whole. For this reason, and to carry out this purpose, this conference urges that no organization or persons connected with this industry make agreements or form entanglements, one with another, or with outsiders, which would tend to the injury of the public.

* * *

Would Exempt New Houses from Taxation

One definite step toward increasing house building in the Cleveland, Ohio, district has been taken in an appeal by County Auditor Zangerle to Governor Davis, to the effect that new houses be exempted from taxation for a stated period of years, following the New York state plan. Davis has been urged to have the tax commission take the matter up at this session.

* * *

To Standardize Fixed Fee Form of Contract

A movement began at the annual convention of the Associated General Contractors of America, at New Orleans, January 24 to 27, 1921, to evolve and standardize so far as is feasible the best form of building contract. The fixed fee form of contract will most probably be the basis upon which the standardization will take place. It is thought that this form is the fairest of any, as the owner is assured of good work, for the contractor is not tempted to "skin" the job as with a lump sum contract.

* * *

Home Industries to Get Benefit of Trade

Patronizing of home industries will be the policy of retail dealers in brick, tile and clay products in Cleveland, Ohio, following completion of plans designed to aid the Cleveland jobbing factors in these materials. This is the decision of a special meeting of the Builders' Supply Board of Cleveland recently. In a word, where brick and clay products are permanently represented in the city, local handlers will support such interests only. The plan, in the opinion of officials of the board, will give the jobber that volume of sales that will guarantee continuance of his lines here.

While at times it might be to the advantage of consumers, or dealers, to buy from out-of-town interests not permanently represented in Cleveland, it is the opinion of all members of this branch of the building material business that the dealer's best interests will be conserved by throwing his full purchasing power to the representative who is always ready to serve him here. Following successful working out of the plan in brick, tile and other clay products, it is probable that the idea will be carried into other building material lines.

Meanwhile a committee on face brick is making a cost survey for the board, to ascertain the actual cost of handling face brick from the car to the job and from the plant to the job. This committee includes Leo A. Krueger, Cleveland Clay Products Co.; H. F. Kemper, Kemper Material Co.; R. L. Queisser, Jr., R. L. Queisser Co. The results of these figures, in the opinion of the committee members, will show definitely the efficiency in plants in Cleveland.

The move is largely the outcome of the persistent clamor for lower prices for building materials. The aim of this inquiry will be to get to the lowest possible prices. An average haulage of three miles is being used as the basis for these figures.

* * *

Some Facts About Present Immigration

General Coleman Du Pont, chairman of the board of directors of the Inter-racial Council, in a statement recently deplored the feeling of popular sentiment which is being created against the alien, with a view to forcing the enactment of restrictive legislation. The fear is being expressed that hordes of undesirable immigrants are now daily coming to this country and it is also feared that these undesirables will exert a harmful influence upon the country.

Mr. Du Pont says: "If the laws as they stand were enforced by an adequate staff we should have only immigrants of good moral character, physically sound, mentally competent, self-supporting and opposed to violence and revolution.

"What we need to do is to see to it that those actually arriving are desirable and whether we are getting the kind of immigrants who will contribute to the upbuilding of the country."

Statements by men in public life are creating the impression that the country is becoming overrun with aliens and that from 15,000,000 to 25,000,000 aliens are trying to come to America. The inconsistency of these statements can be proved by reviewing our transportation capacity. Approximately seventy-five vessels at present are carrying passengers between the United States and Europe, and distributing 15,000,000 evenly among them, an average of 200,000 would be allotted to each. If 2,000 immigrants could be accommodated on each trip it would necessitate 100 trips for each vessel. At the rate of one trip a month it would require eight and one-half years to carry the 15,000,000 immigrants from Europe to the United States.

These statements, however, are greatly exaggerated and many of them are based entirely on hearsay. Statistics show an increase in alien male population of only 9,877 for the fiscal year ended June 30, 1920. The statement was made in the House of Representatives that unless "the flood gates are closed, the standards of living will be lowered, unemployment already estimated at 2,000,000 men, will run rampant and the wage scale be destroyed." Official figures from the Bureau of Immigration show, however, that 10,000 more aliens left for than came from Europe during that fiscal period and most of the immigrants came from Canada and Mexico. The United States lost 102,000 immigrant laborers and gained 49,185 skilled; 9,063 professional people; 12,500 farm laborers and 31,000 servants.

The following are the figures on total immigration and total emigration from July 1 to November 30, 1920:

	Total Immigration	Total Emigration	Net Immigration
July	83,959	39,505	44,454
August	86,500	43,800	42,700
September	98,400	31,200	67,200
October	101,000	33,000	68,000
November	103,000	34,000	69,000
	472,859	181,505	291,354

These figures would indicate that we will not have as large a net immigration as during 1914 when the net immigration was 769,276

The BUILDING SITUATION *in the* EAST

CONSTRUCTION WORK is taking a decided turn for the better in the eastern districts. A steady improvement is shown as each week rounds out, and far better times are being ushered in. The turn of the spring season is likely to show considerable activity in building operations, and before the season is past, real busy times for manufacturers, contractors, dealers and others in the industry.

That the inaction in business is ceasing is evidenced, on the other hand, by reports of labor conditions, and more and more employment is the order of the day. Taking the New England districts as a fair example, a recent canvass of about 300 industrial plants, made under the auspices of the Associated Industries of Massachusetts, shows that over 186,000 persons are now employed, as against 182,765 in December. While the increase is small, it shows a turn in the right direction, and like conditions are commencing to prevail in and around the New York section.

OUTLOOK STEADILY IMPROVING

Another sign of improvement is found in the brick and building material markets. With quotations holding quite firm, there is a marked increase in sales and distribution, and construction interests, evidently, are coming to realize that pre-war figures at the present time are impossible, whether there are sales or no sales. Higher production costs, increased freight rates and greater labor prices must be passed on to the consumer if the manufacturer and dealer is to make both ends meet. Bank loans, particularly for housing operations, are now being made possible; a number of trust companies and insurance companies in the New York district are advancing substantial funds for this purpose. All in all, it would seem that the spring and summer of 1921 will find the industry in a heathy condition, gradually resuming normal, and not inspired with temporary action, as in seasons now past, that sooner or later cease and make for depression.

The last fortnight shows the situation in the different eastern districts as follows:

New England: There is a considerable amount of building work now maturing in the different prominent sections of this district. In and around Boston, a number of substantial contracts are under way, as well as a volume of smaller jobs. The John West Thread Co. has made an award for the erection of a new factory at South Boston to cost about $100,000; the Union Market National Bank has construction under way on a new two-story, brick and stone bank building at Watertown to cost $250,000; the General Electric Co. has commenced the construction of an addition to its Lynn works to cost in excess of $100,000; the Lincoln Mfg. Co. at Fall River has work under way on a three-story addition to its textile mills to cost $360,000; while the Fitchburg Gas & Electric Co., Fitchburg, is building a number of new mechanical structures to cost about $100,000. Such jobs as these require building materials in sizable quantities, and are making things active for certain dealers.

MATERIAL PRICES HOLD FIRM

Building supplies are maintaining present levels in the different New England cities. Leading dealers at Boston continue to ask $28 a thousand for New York brick and $32 for Connecticut material, delivered; fire brick shows no change from $80 and $90 quotations as recently established; fire clay is $30 per ton. Terra cotta partition blocks are selling for twenty cents each, 4x12 in., or $200 a thousand, and thirty-eight cents, or $380 a thousand for 8x12 in. sizes. Wall coping is quoted at twenty-five per cent. off list, and standard sewer pipe at thirty per cent. off; flue lining is thirty per cent. off list. Face brick holds at $50 and $60 levels, with very select varieties a trifle higher.

With an initial membership of about 300 contractors representing different branches of the building trades in various parts of the state, the Connecticut Building Contractors' Association has been organized with a temporary board of officers, headed by H. A. Leonard, New Haven, as temporary president, and John Wise, Hartford, treasurer. The general objects of the association are to stabilize the building industry in the state, to regulate conditions of contracts and to discourage the charging of "outrageous rates of interest on money loaned by banks and others to prospective builders." At the initial gathering, the general opinion was expressed that a wage reduction of from twenty to twenty-five per cent. will be necessary in the different lines of trade to forward the building movement in the right way.

NEW YORK CONSTRUCTION OPENING

New York: A more optimistic tone is prevailing in construction circles in the metropolitan district, and the general sentiment runs to the impression that the real period of depression is past. The past fortnight shows a number of new projects running into millions of dollars and utilizing brick and burned clay commodities in a broad way. The Plaza Hotel has awarded a contract to the George A. Fuller Construction Co. for the erection of a seventeen-story addition, containing over 300 rooms, to cost about $5,000,000; the Blumstein Department Store, 125th Street, is having plans prepared for the construction of a new fireproof building to cost about $1,000,000, for which Robert D. Kohn is architect; the Fort Wayne Building Corporation, 135 Broadway, has plans under way for a new six-story apartment building, to be located on Fort Washington Avenue, utilizing brick and limestone, and estimated to cost about $750,000; a $250,000 brick apartment, six-story, 70x200 ft., will be constructed by the Crimson Realty Co., 132 Nassau Street, at Riverside Drive and 152nd Street.

Indicating the lessened tension in the money market, the Metropolitan Life Insurance Co. has authorized mortgage loans for an aggregate of $5,500,000 for housing operations. The funds will be distributed in a number of states, New York City sharing to the amount of $2,110,000 for new apartment houses. Interest rates are six per cent. on the local loans, and from 6½ to seven per cent. outside of the city.

NEW DWELLINGS EXEMPT FROM TAXATION

To encourage the construction of new homes in New York, Mayor Hylan has signed an ordinance recently passed by the Board of Aldermen, exempting from local taxation all new dwellings constructed from April, 1921, to the same time in 1922 for a period of ten years, based on a rate of $1,000 a room up to five rooms at $5,000. It is said that this action will bring about exceptional activity in house construction during the coming year, and some go so far as to predict that not less than housing accommodations for 2,000 families will be built during the forthcoming spring season.

In an interesting address at the twelfth annual dinner of the Brooklyn Real Estate Board, February 19, United States

Senator William H. Calder made the assertion that he does not look for a return to old price levels in construction work. He said that the reason was plain, taxes in Greater New York on real estate have been doubled within the past ten years; and during the same time the cost of operating the state government has increased about 150 per cent. Rent laws have been passed, he set forth, that, altho well-intentioned, have done more to restrict building than any other one thing. Senator Calder does not anticipate a real revival in housing construction until such laws as these have been modified.

DOES NOT EXPECT BUILDING MATERIALS TO DROP

The cost of building materials is another problem difficult of solution, he pointed out, and is affected to a considerable degree by fuel and transportation costs; there is no hope of an immediate reduction in these items, in his opinion. The exposure of combinations in the building industry, also, has temporarily checked the erection of homes, he said, and has also tended to destroy the confidence of the public; ultimately, the fact that these conditions have been laid bare and are being remedied will be helpful.

The real touch of winter weather at New York and snowbound streets for a few days, resulted in a lessened call for brick, and sales during the past fortnight have been comparatively light. Local stocks have been reduced to a point of about fifteen barge loads, and this number has been swelled to such point by the arrival of a number of loads that found their way thru the broken ice in the Hudson. It will be a few weeks before the regular spring arrivals can be expected, even tho the weather has moderated to a point of encouraging a brick movement.

GOOD MARKET FOR SECOND-HAND MATERIAL

Good hard common is ranging at $17 and $18 a thousand, while less desirable material can be secured wholesale, alongside dock, at from $15 to $16 in cargo lots. Dealers are asking from $22.70 to $23.70 for the material on the job. A decided advance is noted in the price of second-hand material from $36 to $45 per load of 3,000. The movement of this material has been good, and there is little or no difficulty in turning presentable stocks. Face brick holds at from $45 to $60 a thousand, according to selection, and firebrick at $75 and $80; there is a fairly good call for this latter commodity. Interior partition tile, split furring, maintains at levels ranging from $220 a thousand sq. ft. for 2x12x12 in. material, to $320 for 6x12x12 in. size. Sewer pipe, drain tile, wall coping and other burned clay goods are operating under a slow call at this time.

SEWER PIPE IN DEMAND AT BUFFALO

With the city government at Buffalo, N. Y., arranging for the installation of sewer extensions, there is a noticeable increase in sewer pipe sales. The popular size material as specified by the Public Works Department is ten inch tile, and a number of important contracts have been let for immediate construction. Bids for other work of this character are being asked.

New Jersey: While immediate construction at Newark and vicinity remains at a low status, all present indications point to a pronounced change at an early date. This statement is made in view of the fact that local architects have a considerable volume of work in hand for the coming spring, and the next few weeks are expected to show a rapid revival of activity. Particularly is this true in the line of housing and apartments, and many thousands of dollars will be involved in operations of this character. A four-story, tapestry brick sixteen-family apartment, with limestone trimming, to cost about $80,000 will be erected on Mount Pleasant Avenue, from plans prepared by Edward V. Warren; a similar four-story brick apartment will be built at a cost of $75,000 at 178-80 Warwick Street, and for which John B. Acocella is architect; Romolo Bottelli, architect, has plans under way for the erection of a twenty-seven family apartment at Burnett and Jefferson Streets, East Orange, to be of brick, with limestone trimmings, and estimated to cost close to $100,000.

INCREASED BUILDING IN NEW JERSEY CITIES

At Newark and other points in Northern New Jersey, as well as at Trenton and vicinity, there is going to be a good demand for common and face brick during the coming months; every sign bends in this direction. And not far behind will be other popular burned clay products, including hollow tile, wall coping, roofing tile, and so forth. Dwelling work is going to be on the increase and there is considerable public work in view calling for these fireproof materials.

A noticeable increase in construction work during the past few weeks is shown in a number of cities in the state, including Jersey City, Bayonne, East Orange, Elizabeth and Plainfield. In the two first noted municipalities, industrial work is in the lead and a number of sizable projects are under way; East Orange seems to be concentrating on new apartments, and numerous fine brick structures are being pushed to completion for occupancy in the spring and fall. Plainfield is also giving particular attention to new homes, and the work under way and planned for early operation is decidedly encouraging.

STABILITY IN PRICES BEING EFFECTED

There is growing stability in the material markets in the different New Jersey centers with regard to prices, and distinctly so in the line of burned clay products. Common brick holds at $25 in the Northern section of the state and at $27 and $28 in the Southern districts. With practically no change in these levels thruout the winter, it is not likely that spring will find any great fluctuation, and such figures seem destined to be pretty close to the range of what can be expected in the months to come. Fire brick holds its own at $75 and $80, with $90 asked for the best grade stocks. Face brick is selling at $45 and $50 a thousand delivered, with choicest shades and quality around $60. The market for different burned clay specialties, such as drain tile, flue lining, sewer pipe and the like is quite far from normal, but the aspect for spring call is encouraging.

Philadelphia: The conclusions drawn at the recent conference of building interests at Philadelphia, held under the auspices of the local Chamber of Commerce, that building costs must be lowered before construction will be resumed to any pronounced degree, seems well-founded in the case of the Quaker City, for building operations are moving at a very slow pace in this district. There is hardly a project of any material account now being launched or in immediate prospect, and even $25,000 and $50,000 jobs are woefully in the minority.

PLAN TO REDUCE WAGES 24 PER CENT

As a move in the right direction, the Chamber of Commerce conference has recommended a reduction of 23.93 per cent. in wage scales now prevailing in the district, and just how the workers are going to accept the proposition remains to be seen. Bricklayers have been receiving $1.30 an hour, and under the new schedule the figure will be $1; the men earned sixty-five cents an hour in 1914; masons will be reduced to the same figure; in line, also, tile setters and marble setters, as well as granite cutters and affiliated workers, will be reduced to eighty cents an hour, as compared with a $1 wage scale heretofore prevailing. It is proposed to change the level for carpenters from $1.12½ cents an hour to ninety cents, as against a wage figure of fifty-five cents in 1914.

The Philadelphia material market holds little or no interest at the moment. Prices remain unchanged in any extended degree and the slack in call is giving dealers all the opportunity desired, and more, to arrange for anticipated spring business. Common brick sticks to the $25 figure and this is evidently the producers' lowest level under present manufacturing costs. Stocks are being well maintained and considerably in excess of present requirements. The face brick and tile markets are dull; good quality front brick is fetching around $50 a thousand, while lesser grade material is securable at $39 and upwards. Fire brick is ranging at a figure of $75 to $85, according to stock. Partition tile maintains around the $200 mark for the smaller size material. The demand for various burned clay specialties, as drain tile, flue lining and so forth, is much lighter than would ordinarily be expected, and is open for decided improvement.

* * *

May Adopt American Sewer Pipe Standards

At the invitation of A. G. Dalzell of the Vitrified Clay Pipe Publicity Bureau, 9 Wellington St. East, Toronto, Can., a number of engineers interested in sewer pipe design and construction attending the annual meeting of the Canadian Engineering Institute, Toronto, met at luncheon on February 3. The purpose was to get an expression of opinion as to standard specifications for clay sewer pipe. The consensus of opinion was that there is a tendency towards combined sewage systems and that there would be less demand for sizes between six and twelve inches. Many thought the British standards, 6, 8 and 12 inches would meet all requirements. Others believed that inasmuch as the standards of the American Society for Testing Materials called for 6, 8, 10 and 12 inches, it would be unwise to make a size not standard there and discontinue two sizes which are standard there. It was the unanimous opinion that American standards above twelve inches, that is 15, 18, 21 and 24, would meet all requirements. It was felt that pipe should be made in one thickness only but tests will be made before coming to a decision. Mr. Dalzell is sending letters to engineers to secure further opinions after which the data will be given to the Canadian Engineering Standards Association for final decisions.

* * *

Extracting Aluminum from Kaolin in England

British chemists have been aroused to a considerable state of interest over the possibility of extracting aluminum in its metallic form from the extensive deposits of kaolin found in the west of England. Altho these clays have always been used as clays, the possibility of extracting the aluminum from them was never considered.

An American chemist has discovered a method whereby this may be accomplished and as a result there is considerable agitation in Great Britain leading to the establishment of a plant for the refining of clay.

* * *

Chicago Home Building Takes Big Step Ahead

The report of Building Commissioner Charles Bostrom, ot Chicago, Ill., for the month of February would lead one to believe that we are on the threshold of the much advertised building boom.

During the twenty-one days in which the office was open in February, forty-one permits for apartment buildings were issued, as compared to only thirteen during the month of January. Permits for homes in February number 181 as against sixty-nine in January.

The forty-one permits for apartment buildings issued in February represents an amount nearly three times that shown in the records of the same month last year. The frontage involved was 10,608 feet, only about 1,000 feet less than a year ago.

"I am told the banks are loosening up a little," said Edward H. Nordlie, chief plan examiner for the city. "They are loaning up to sixty per cent. of the value of construction work. It looks like the building boom is near at hand."

Following is a table comparing permits issued in February, 1921, with those issued the preceding month and also a year ago:

	Feb., 1920	Jan., 1921	Feb., 1921
Factories, and so forth	108	73	75
Residences	141	69	181
Apartments	12	13	41
Others	15	11	14
Total	276	166	311

In addition to the permits mentioned above a permit has been granted for the new Federal Reserve Bank building which is to cost $7,500,000.

* * *

Condition of the Austrian Brick Industry

Consul Carol H. Foster, with the American Mission at Vienna, reports that during 1920 the brick industry of Austria has disposed of the stocks remaining on hand from the year before. Production has been profitable only in so far as roof tiles were concerned, since the demand for building brick was slight and the prices offered were not tempting. Some exports were made and agreements were concluded with France and Jugoslavia for further exports. Compared with the previous year production has increased from twenty-five to thirty per cent., and a still greater increase is in prospect for 1921, particularly in tiles for roofing.

* * *

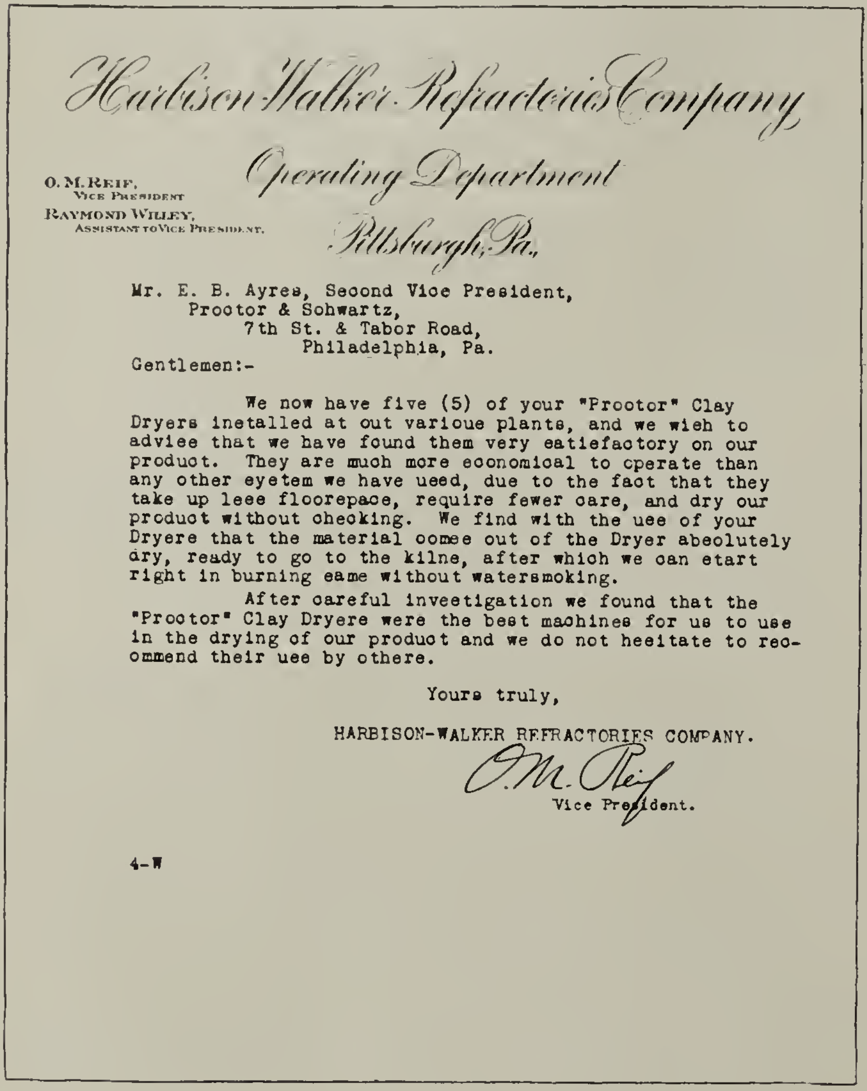
Prize Awarded for Terra Cotta Facade

In order to secure the best terra cotta facade for the new ceramic research station at Rutgers College, New Brunswick, N. J., a prize contest recently was inaugurated by a committee from the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society, offering $200 as a first prize and $100 as second prize for accepted designs.

Fourteen designs were submitted in all, indicating particular merit and careful study of the subject. The first prize was given to E. W. Moell, Rocky Hill, N. J., and the second, to S. R. Audsley, Atlantic Terra Cotta Co., Perth Amboy, N. J. In the judgment of the committee these were the best and most practical suggestions submitted. The facade, as it will be carried out, has certain polychrome work. There are allegorical panels or frieze work, depicting the evolution and advancement of the ceramic and terra cotta industries, with the use of products, or the progress of manufacture thru the plants. Space is arranged for a name panel, and for the seal of the state. The new building will be 50 by 100 feet, with front and rear to be of the same design. It is estimated that about 1,600 to 2,000 square feet of terra cotta will be used in the facade, with the balance of brick.

The committee in charge of the contest was composed of: Prof. George H. Brown, Abel Hansen, J. W. Mettler, the late Oswald Spier and E. V. Eskesen. State Architect Francis H. Bent also acted with the committee.

DRYING Fire Brick, Grinding Whee



Harbison-Walker Refractories Company
Operating Department
Pittsburgh, Pa.

O. M. Reif,
Vice President
Raymond Willey,
Assistant to Vice President.

Mr. E. B. Ayres, Second Vice President,
Proctor & Schwartz,
7th St. & Tabor Road,
Philadelphia, Pa.

Gentlemen:-

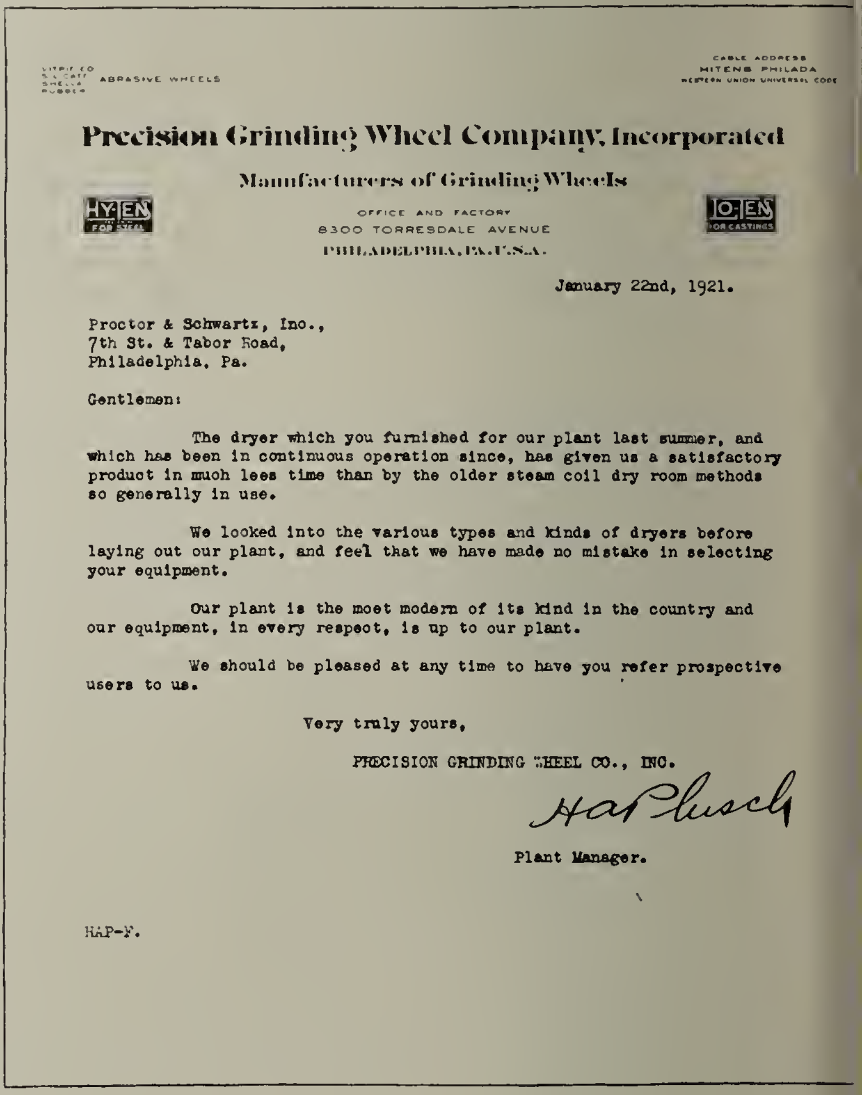
We now have five (5) of your "Proctor" Clay Dryers installed at out various plants, and we wish to advise that we have found them very satisfactory on our product. They are much more economical to operate than any other system we have used, due to the fact that they take up less floorspace, require fewer cars, and dry our product without checking. We find with the use of your Dryers that the material comes out of the Dryer absolutely dry, ready to go to the kilns, after which we can start right in burning same without watersmoking.

After careful investigation we found that the "Proctor" Clay Dryers were the best machines for us to use in the drying of our product and we do not hesitate to recommend their use by others.

Yours truly,

HARBISON-WALKER REFRACTORIES COMPANY.
O. M. Reif
Vice President.

4-W



[illegible] ABRASIVE WHEELS

CABLE ADDRESS
HITENS PHILADA
WESTERN UNION UNIVERSAL CODE

Precision Grinding Wheel Company, Incorporated
Manufacturers of Grinding Wheels
HY-TEN FOR STEEL
LO-TEN FOR CASTINGS
OFFICE AND FACTORY
8300 TORRESDALE AVENUE
PHILADELPHIA, PA. U.S.A.

January 22nd, 1921.

Proctor & Schwartz, Inc.,
7th St. & Tabor Road,
Philadelphia, Pa.

Gentlemen:

The dryer which you furnished for our plant last summer, and which has been in continuous operation since, has given us a satisfactory product in much less time than by the older steam coil dry room methods so generally in use.

We looked into the various types and kinds of dryers before laying out our plant, and feel that we have made no mistake in selecting your equipment.

Our plant is the most modern of its kind in the country and our equipment, in every respect, is up to our plant.

We should be pleased at any time to have you refer prospective users to us.

Very truly yours,

PRECISION GRINDING WHEEL CO., INC.
H A Plusch
Plant Manager.

HAP-F.

THE WONDERFUL ADVANTAGES of "Proctor" Dryers are proven beyond doubt by the experience of a vast number of users. The letters reproduced above, exemplify the high value of these machines in four important branches of the Clay Industry.

The various plants of Harbison-Walker Refractories Company are using five "Proctor" Dryers with notable success in drying Magnesite, Chrome and other Fire Brick. They find this superior drying method helps them materially in maintaining the high quality of their product, in reducing spoilage to a negligible quantity, in saving time and speeding production.

In this type of "Proctor" Dryer, cars loaded with the brick are automatically propelled through an enclosure in which large fans rapidly circulate heated air so that it sweeps across every bit of brick-surface. The brick is first warmed thoroughly, plenty of moisture being present. It is then subjected to a systematic increase of temperature until it emerges from the machine in a perfectly uniform, dry condition. The time required is radically short. Labor and space are saved. Cuts down the number of cars and quantity of brick necessary to have in process. Works forcibly for low production costs.

The Precision Grinding Wheel Company, in equipping their fine, modern plant, sought a method of drying which would be as scientific and efficient as the rest of their equipment. They selected a "Proctor" Automatically Controlled Dryer and they now say that their selection has resulted in their entire satisfaction.

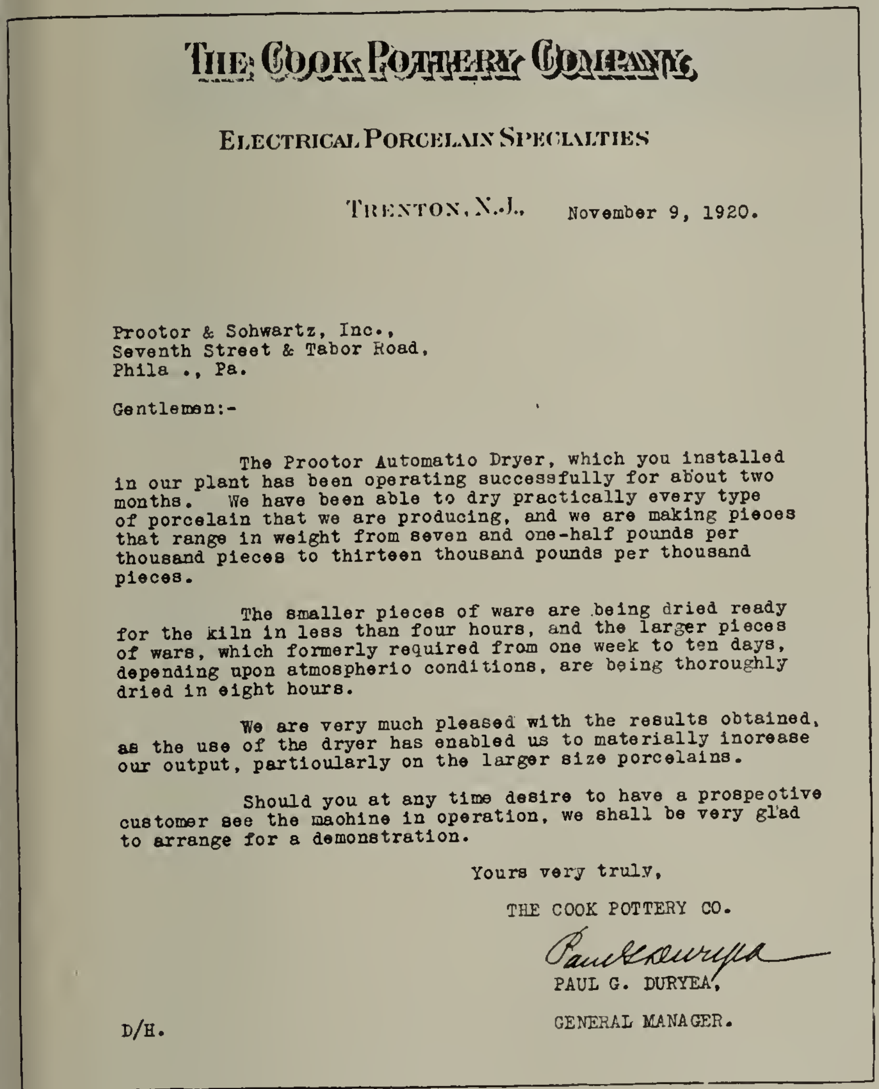
This machine gives a very large output in a surprisingly small amount of space. The work is handled systematically, on a time-saving schedule. Thorough and uniform drying is under easy and perfect mechanical control at all times.

Every maker of Grinding Wheels should by all means investigate the profitable advantages of this "Proctor" Dryer.

PROCTOR & SCH

"Pro

orcelain Specialties and General Ware



THE COOK POTTERY COMPANY

ELECTRICAL PORCELAIN SPECIALTIES

TRENTON, N.J., November 9, 1920.

Proctor & Schwartz, Inc.,
Seventh Street & Tabor Road,
Phila ., Pa.

Gentlemen:-

The Proctor Automatic Dryer, which you installed in our plant has been operating successfully for about two months. We have been able to dry practically every type of porcelain that we are producing, and we are making pieces that range in weight from seven and one-half pounds per thousand pieces to thirteen thousand pounds per thousand pieces.

The smaller pieces of ware are being dried ready for the kiln in less than four hours, and the larger pieces of ware, which formerly required from one week to ten days, depending upon atmospheric conditions, are being thoroughly dried in eight hours.

We are very much pleased with the results obtained, as the use of the dryer has enabled us to materially increase our output, particularly on the larger size porcelains.

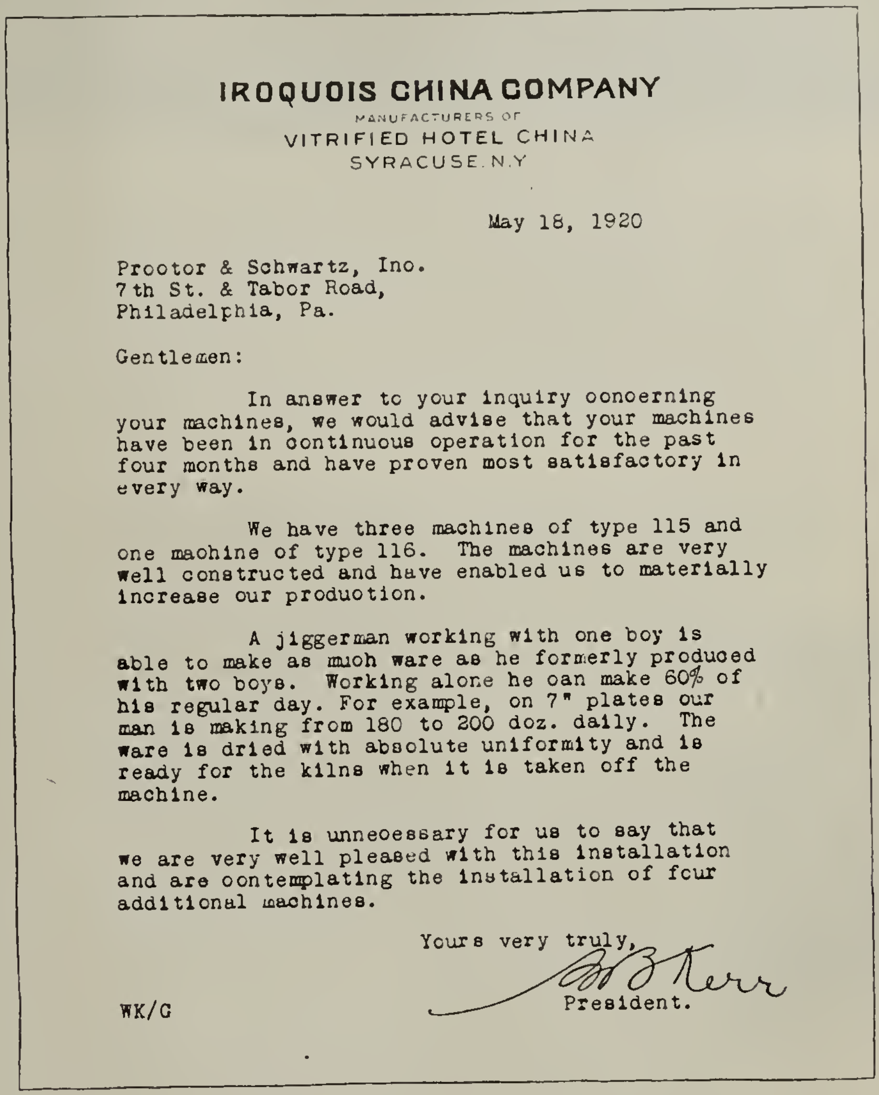
Should you at any time desire to have a prospective customer see the machine in operation, we shall be very glad to arrange for a demonstration.

Yours very truly,

THE COOK POTTERY CO.

PAUL G. DURYEA,
GENERAL MANAGER.

D/H.



IROQUOIS CHINA COMPANY
MANUFACTURERS OF
VITRIFIED HOTEL CHINA
SYRACUSE, N.Y.

May 18, 1920

Proctor & Schwartz, Inc.
7th St. & Tabor Road,
Philadelphia, Pa.

Gentlemen:

In answer to your inquiry concerning your machines, we would advise that your machines have been in continuous operation for the past four months and have proven most satisfactory in every way.

We have three machines of type 115 and one machine of type 116. The machines are very well constructed and have enabled us to materially increase our production.

A jiggerman working with one boy is able to make as much ware as he formerly produced with two boys. Working alone he can make 60% of his regular day. For example, on 7" plates our man is making from 180 to 200 doz. daily. The ware is dried with absolute uniformity and is ready for the kilns when it is taken off the machine.

It is unnecessary for us to say that we are very well pleased with this installation and are contemplating the installation of four additional machines.

Yours very truly,

President.

WK/G

The experience of the Cook Pottery Company, given above, adds to the tally of unquestionable proof that "Proctor" Dryers are essential to the most economical production of Porcelain Specialties.

Their letter refers to a "Proctor" Dryer which dries correctly and progressively and in which the drying is always under absolute control. The porcelain pieces are handled entirely automatically from the green to a perfect dry condition.

The enormous saving of time which distinguishes the work of "Proctor" Dryers in this plant gives just an idea of many forcible facts we can present in favor of these machines.

Z, Inc., Philadelphia

tor"

YERS

MAKERS OF GENERAL WARE will find in the experience of fellow-manufacturers who are using "Proctor" Automatic Stove Rooms and Automatic Mangles, an abundance of proof that these machines belong in every plant producing China or Porcelain Table Ware.

The letter of the Iroquois China Company above, not only expresses their praise of the "Proctor" Automatic Stove Room but is also representative of the general satisfaction of many other users of this machine.

The Automatic Stove Room is decidedly profitable in its savings of time, labor and space. It supplies an efficient, continuous process of operation, taking the ware directly from the jiggerman through the dryer to the finishers; then returning the moulds through the dryer to the jiggerman.

Dries and shrinks the ware uniformly without warping, dunting or spalling, thus providing amply for the best quality results. The moulds are dried every time they are used; they work better and last longer. All the ware made, is dried each day—a feature of steam-economy, since there is no need of keeping up steam all night as is usually necessary for the old type of stove rooms.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

PROTECTIVE TARIFF FOR AMERICAN POTTERY INDUSTRY

THAT the American pottery manufacturer and the American pottery worker have been lulled to a sense of false security by the prosperity brought about by war conditions and are not awake to the impending danger of a revived European competition is the opinion of W. E. Wells, of the Homer Laughlin China Co., in a statement made at East Liverpool, Ohio, relative to the tariff as applied to the American pottery industry.

"There is a close relation between the city of East Liverpool and tariff legislation enacted in the years gone by," Mr. Wells said. "The action of congress on tariff matters has been and always will be a matter of vital importance to the people of this community.

"A discussion of the subject of tariff is extremely timely just now. Congress is considering a revision of the existing tariff schedule—a schedule that has not been revised since 1913 when Oscar Underwood's tariff bill was enacted.

WAR CREATED UNUSUAL CONDITIONS

Intervention of the war and the extraordinary conditions created thru its advent postponed the effect of this tariff upon the American pottery manufacturer. The adverse conditions that his tariff would have imposed upon the American pottery manufacturer were counteracted by the complete check on all importations of foreign-made pottery ware.

"Pottery ware that had been manufactured under the cheap labor conditions of Europe, and in fact, thruout the entire world, and sent into this country at such a low cost as to seriously menace the market for American-made pottery, could not be manufactured abroad under war environment. The war created a wall that was more effective and insurmountable than the most favorable of tariffs. American-made pottery leaped almost overnight into the greatest demand.

"In contrast to the pre-war days when American pottery manufacturers were able to fill every order that could be begged or cajoled from the American jobber, American pottery manufacturers were called upon to more than double their output to make up for the absence of European-made work. And they simply could not meet the demand.

FOREIGN MARKETING METHODS OFTEN UNFAIR

"Up until 1913 American pottery manufacturers controlled less than one-half the American pottery market. European manufacturers particularly those in Germany and Austria, used questionable and unscrupulous methods in putting their product in America past a so-called protective tariff. Pottery manufacturers from abroad placed their own agents in this country to market their imports. Shipments of pottery ware were billed at any valuation they saw fit to place upon their product and the shipments were landed here without their rightful duty.

"Agents of European manufacturers tried by bribery to gain control of customs inspectors so that even this light tariff could be lessened. Chambers of commerce in their home land preached a doctrine of evasion of American laws. American laws, they said, were not their laws. If they could avoid payment of American duty on their imports, so much the better. European manufacturers, principally those in Germany and Austria, were absolutely without business conscience.

WAR BROUGHT BUSINESS TO AMERICAN POTTERIES

"And yet, Jugo-Slavia, which now embraces what was prior to the war, Austria or Bohemia, is being extolled by some Americans as a land deserving of assistance in its rehabilitation difficulties.

"But the war brought a sudden end to foreign imports in pottery trade just at a time when the foreign-made pottery ware threatened to predominate the American market. There was suddenly a famine in pottery ware. Merchants who had heretofore depended upon foreign-made ware to supply their trade were forced to place their orders with American pottery manufacturers.

"And they did not have the facilities for handling the demands for this product. We did not have the factory space; we did not have the men; we did not have the fuel; we did not have the material and we did not have the required shipping facilities to market our product. Our plants have been working to capacity to fill our orders and our men have been given employment where other industries have been forced to suspend.

"These conditions have lulled both manufacturer and working man to a sense of false security that these times of prosperity are come to stand. But this is not the situation. The war is over. Our foreign competitions are beginning to find themselves and soon our markets will be again flooded with foreign-made ware. And our only recourse is the enactment of a tariff law that will give us a fighting chance.

POTTERS FACE WORLD-WIDE COMPETITION

"The American pottery manufacturer does not want to corner the market. The American pottery manufacturer does not want the rest of the world back into a corner. All we want is to be placed on an equal footing with the world. And we are competing against the world.

"Show me another industry that must face the world-wide competition the American pottery manufacturer confronts. Pottery ware is made in Germany, Austria, France, England, Spain, China, Japan and other countries. Pottery ware was made in these countries and placed upon the American market before pottery was made in America.

"The American pottery industry has gained world predominance and we are going to maintain our present place in the world of commerce. We are controlling two-thirds of the American market and we demand that we be permitted to retain that standing. The war taught America the costly lesson of unpreparedness. American pottery manufacturers are confronted with a situation that is closely akin to war. We must fight against the renewed encroachments of a war-checked competitor. Let us not be unprepared.

OPERATIVE MUST WORK WITH OPERATOR

"If the American pottery industry is to maintain its present standing in the world of commerce the working man must lend his closest cooperation. During the strenuous war period the question of speed has predominated the manufacture of pottery ware. It has not been a question of how well but how much. This policy must be reversed if the American pottery industry is to continue to exist.

"American pottery workers are still at work while in other industries plants are down; American pottery workers are being paid the peak of high wages and these wages have not been disturbed. But they must give 100 per cent. return for these wages. They must use their skill in every phase of pottery production.

"Let us pause a moment and compare wages of the average pottery worker during the last 25 years. In 1895 the average weekly wage paid our employes, men, women, and boys was $9.75; in 1900, it was $11.38; in 1908, it was $13.30; in 1913, it was $14.51, and December, 1920, it was $36.82. These figures were taken from our own payrolls and are averages based upon the wages of 118 skilled men, 83 unskilled workers and 103 women.

GREAT FORWARD STRIDES OF INDUSTRY

"Despite the handicaps the pottery industry in the United States has had to overcome, East Liverpool, Ohio,—the pottery center of America,—has shown remarkable growth. In 1890 there were 94 pottery kilns in the East Liverpool district with an annual output of approximately $2,000,000. In 1920 there were 248 kilns in the East Liverpool district with an annual output of $17,500,000 and an annual payroll of $8,000,000.

"In addition to this remarkable growth right here at home, East Liverpool's progeny has spread thruout the middle west. As an outgrowth of the pottery industry in the East Liverpool district, pottery plants have sprung up in East Palestine, Salem, Kittanning, Canonsburg, Sebring, Niles, Minerva, Carrollton, Coshocton, Evansville, Ind., Huntington, Clarksburg, W. Va. Scio, Hopewell, Va., Mt. Clemens, Mich., and in California.

"The war is over, wartime handicaps that have been an insurmountable wall guarding the United States from foreign competition in pottery ware have been leveled. The field is now an open one. The question now is, 'can America produce'?"

* * *

Pottery Workers Refuse Wage Reductions

Eastern sanitary pottery workers have gone on record against any reduction in their present wage scale. This information has been forwarded to the headquarters of the National Brotherhood of Operative Potters in East Liverpool, Ohio. A conference is now contemplated with the labor committee of the Sanitary Potters' Association, when the declaration of the operatives will be made known to the employers in official form.

The Executive Committee of the National Brotherhood of Operative Potters and the Labor Committee of the manufacturers' Association will probably meet within the next thirty days in joint conference.

The manufacturers have asked the sanitary potters to accept a wage reduction of ten per cent. from the existing wage scale. When this request was discussed by the operative potters, the latter cited that living costs had not yet reached that point where a reduction in the existing wage scale would be warranted. The workers also hold that the increases granted them were small, and that no substantial advance in wages was authorized by the manufacturers until after the termination of the war. The contention is also made by these pottery workers that living costs during the war period and for some months following the close of the war exceeded the advance in their wages.

In addition to these claims, these pottery workers have set forth the argument that sanitary fixtures form only a small percentage of the cost of material entering the building of homes, and that any wage reduction agreed to would not in the least add a stimulant to building or increase the demand for sanitary earthenware.

According to the provision of the existing sanitary pottery wage scale, pressers are paid a base rate of $9.20 per day, from which they pay a "helper" $2 per week. In addition the presser has to stand for the loss of defective ware.

* * *

New Pact Eliminates Morning "Lunch Time"

Effective as of February 17, 1921, the new schedule of piece work scales, in the china, general earthenware, jet and Rockingham plants in England, became operative. The pact insuring an increase in wages in these several branches of the industry has been signed by the English China Manufacturers' Association and the British Pottery Manufacturers' Federation for the employers, and the National Society of Pottery Workers, for the operatives.

In the China section, the principles of the 47-hour week have been conceded by both sides.

The break in the day heretofore allowed "for breakfast" has been eliminated. This refers to the doing away with the "lunch time" as is now known in the American potteries, considered by many as a recess during the morning hours.

However, where the recognized working week is less than 47 hours, no change in the morning schedule has been made.

In the general earthenware section, the settlement is to date back for jiggermen, jug jolliers and cover dish makers to July 16, 1920. For hollow ware pressers the new scale dates back only to November 5, 1920.

Other clauses in the agreement are to become operative as from December 3, 1920. The new schedule for the packers in the English potteries also dates back as effective December 3.

* * *

British Potters' Wages Remain Steady

Thru a private source, but which is generally conceded to be correct, the following statement has been received in the East Liverpool, Ohio, pottery district concerning the English earthenware and china business, which is centered about Staffordshire:

"We are officially informed that it has been agreed between the British Pottery Manufacturers' Federation and the National Society of Pottery Workers, the National Union of Enginemen and Stokers, and the Navies' and General Laborers' Union that notices on either side should not be exchanged for any alteration of wages to take effect on hand after March 25, 1921.

"March 25 is the Potters' Annual Settling Day and, in accordance with custom, notice of any alteration in wages has to be given six weeks prior to that date. Notices, if any, would therefore have been given by February 11.

"Negotiations have, however, been proceeding between representatives of the manufacturers and operatives, with the result stated above.

"Wages will, therefore, stand at their present level of 66⅓ per cent. incorporated, plus 25 per cent. bonus, making the general advance (apart from departmental increases) 108⅓ per cent. over the pre-war standard.

"It is believed that this wage settlement will have a favorable effect on the demand for ware.

"It is now made clear to buyers that there is to be no reduction in wages, and as to other costs of production—the most important being coal—there is no easing at present, nor any immediate prospect.

"Buyers may, therefore, take it for granted that there will be no reduction in selling prices for a considerable time to come, and that there is no advantage to be gained in delaying orders."

* * *

Will Weed Out Careless Workers

A general meeting of all foremen, superintendents and department heads of the Potters Co-Operative Co., was called for the week of February 21 by Lester McNicol, sales manager of this company, for the purpose of discussing with these department heads the subject of better ware. The improvement of the product is desired by the firm.

"We have in our employ people who have been with us from five to 15 years, and we know what these people are capable of doing, also know what they have been doing," said Mr. McNicol. "The worker who comes today and goes tomorrow is the one we find who goes about his task with a carelessness that hereafter we'll not tolerate. We know who has been doing his best, but for others who have not, it will not be long before we will ask them to retire, so that we can put better men in their places. That time is past when we accepted any kind of work."

* * *

Sanitary Ware Potteries Double Exports

It is the opinion of sanitary pottery manufacturers that when the sales records of 1920 are totaled, footings will show that pretty close to a normal year's business has been taken care of. These sales of course include domestic and export business, but for the moment there is very little change in this particular situation.

The cry for more houses is heard almost thruout the whole land, and with increased activity in the building lines in the spring, and during the summer and fall, the demand for sanitary earthenware, such as closet bowls, sinks and lavatories will likewise show an improvement.

In December 1920, sanitary earthenware was exported to the value of $99,128 as against a sales record in December 1919 of $43,158.

For the calendar year in 1918, sanitary earthenware, consisting of closet bowls, lavatories and sinks were exported to the value of $377,527, and the valuation of these items exported in 1919 totaled $563,734. In 1920, however, this export business showed a record of $778,714, or an increase of $214,980 over that of 1919 and an increase over the export sales of 1918 of $401,187. Therefore, in two years this export sales record nearly doubled itself.

* * *

A Substitute for Filter Cloths

William T. Eason, a practical ceramist of North Tarrytown, N. Y., has invented a substitute for filter cloths which he believes is entirely practicable and usable.

Practically no changes in present installations are necessary with this device, the only difference being a less number of chambers in each press, as the porous plate chambers take up more space than the ordinary iron chamber. The difference in time required to pump up a press with porous chambers, Eason believes, would more than offset the larger number of ordinary iron chambers. The chief object is to get away from the ducking.

The original model is of the center feed type, but either top or side feed, round or square shapes can be used if desired.

All that would be necessary to apply the device to present installations would be to remove the chambers and replace them with porous plate chambers, leaving a single cloth at each end of the press. The inventor is confident that this type of chamber will do better and more work than the old.

* * *

Increases Capital One-Third

The Carey (Ohio) Porcelain Co. has filed papers with the secretary of state increasing its authorized capital from $60,000 to $80,000.

* * *

Triples Capital Stock

The Illinois Electric Porcelain Co., Macomb, Ill., has filed notice of increase in its capital from $75,000 to $225,000 for proposed expansion.

* * *

Destroyed Plant to be Rebuilt

The Kenilworth Tile Co., Newall, W. Va., is planning for the rebuilding of its plant, partially destroyed recently by fire with loss estimated at about $30,000.

* * *

New Concern to Make Sanitary Ware

The Walter A. Pitt Co., Bloomfield, N. J., has been organized with a capital of $100,000 to deal in sanitary ware. The company is headed by Walter A., George H. and M. D. Pitt.

* * *

Will Add to Plant Capacity

The Hume China Co., Carey, Ohio, has had plans prepared for the erection of a one-story pottery addition, to be brick, tile and concrete, 150x500 ft., and equipped for increased production. George H. Hume is president.

* * *

Plant Again Operating

Following an idleness of two weeks, during which time a number of needed repairs were made to the plant, the Cartwright Pottery Co., of East Liverpool, Ohio, resumed operations in full February 14. The company has announced that the receipt of new business has been active, and that the pottery will continue to be operated to capacity.

* * *

Weather Has Been Ideal for Potteries

If there is one thing pottery manufacturers are more pleased with this season than any other, it is the continued open weather, permitting the continued firing of kilns. Only occasionally this season has the weather been cold enough for the gas company to refuse gas for industrial purposes. In addition, there are some manufacturers firing their kilns with fuel oil, and still others are using coal. The kiln production for the season is far greater than that of 1919-1920 and with a better grade of ware going into the kilns, it will not be long until the capacity of the district will show a decided increase.

Acquires Site for Plant Addition

The Standard Sanitary Manufacturing Co., Pittsburgh, Pa., manufacturer of sanitary ware, has acquired property in the North Side section, adjoining its present works, comprising about 80,000 square feet. The land is located on Ontario Street, fronting on the Baltimore & Ohio Railroad line, and was secured for a consideration of about $135,000. It will be used by the company for the erection of additions to its plant, and present buildings on the site will be demolished. The company is reported to be planning for the establishment of a branch plant at Baltimore, Md., and negotiations are under way for the acquisition of an existing factory in Pittsburgh. The capital was recently increased from $12,000,000 to $20,000,000 for expansion.

* * *

Potters Receiving Orders for "Matchings"

Judging from the large number of orders for "matchings" which pottery manufacturers are receiving, both for open stock and dinner sets, would indicate that the distributors are all but shelf-bare of merchandise. If the department stores had reasonable stocks of particular patterns, they would not be sending the manufacturers "matching" orders. Such business is forwarded either by express or parcel post. The larger potteries are of course receiving the bulk of this character of business, but the smaller plants are also receiving their share.

* * *

Tile Plants Busy in New Jersey

The floor and wall tile plants are the bright spots of activity in the Raritan River section, and such works, for the most part, are engaging at close to normal. The call for material of this character in months gone by has been sufficient to tide over some of the dull period, and increasing inquiries at the present time point to a continuance of fair business. The clay miners in this section are operating under a reduced call, and a number of men have been dismissed.

The situation, while encouraging, does not seem to hold promise of early resumption, and it is unlikely if the clay producers will be operating at anywhere near capacity for some months to come. Other burned clay plants in this district, including the fire brick works, building brick, as well as sanitary ware, are feeling the lull in trade, and have curtailed production accordingly. Men are quite plentiful, and common labor is now receiving around forty cents per hour.

* * *

Expect Steady Business for Potteries

President B. E. Salisbury, of the United States Potters' Association and also head of the Onondaga Pottery Co., at Syracuse, N. Y., is of the opinion that the business outlook is uncertain, but that it is hopeful.

The Onondaga Pottery Co. has a large extension program in hand, and construction of certain units will begin shortly.

"I do not believe that the present severe depression will continue at such a low plane," says Mr. Salisbury. "Some considerable improvement may be expected in 1921, yet deflation of commodities must be completed before any real basis of prosperity can be laid.

"In our own business the prospects are good. There may be, and probably will be, some easing off of orders, but it will be only temporary. There is actually a world-wide shortage in our class of goods, and while, because of decreased employment, the purchasing power of the country will be lessened, yet the demands have been and still are so greatly in excess of the supply that we believe there will be enough business to keep our present factory busy, and that by the time the new factory is completed the general condition will be much brighter."

* * *

Large Plant Adds Another Building

Another unit will be added to the great industrial plant of the Standard Sanitary Manufacturing Co. in the southern part of Louisville, Ky., very shortly, announcement being made by officers of the company of plans for erection of a modern pottery plant, which will cost approximately $50,000. The new building will be constructed on the "daylight system," and will be modern in every detail.

The building will be 75x200 feet in size, and will be one story in height, with full basement. It will be of the "monitor" type, with specially raised roof to provide light and ventilation.

The basement will be partitioned into ten huge bins for storing as many varieties of clay used in pottery making. An elevator will be installed to facilitate handling of materials.

The new pottery plant of the Standard Sanitary Manufacturing Co. will be used for the manufacture of china handles and making a variety of small fittings, and for turning out parts of brass fittings.

* * *

To Make Line of Small Sanitary Specialties

The Standard Sanitary Mfg. Co., Louisville Ky., reports that its new clay products manufacturing department will produce principally small stuff, such as faucet handles, faucet markers, etc., material which during the war period was hard to get, and which held the company up on many occasions when deliveries could not be secured.

* * *

Pottery May Open in California

A pottery works and a fancy brick manufacturing concern will be located in Ventura, Cal., if enough gas is developed there within the next year, according to promises made to the local chamber of commerce. Allen C. Katz, representing a pottery manufacturer, recently made investigations.

* * *

Incorporation of China Company in New York

The Eastern China Co., Brooklyn, N. Y., has been formed with a capital of $15,000, to manufacture and deal in china and pottery products. The company is headed by R. Mendel, L. J. Cantoni and A. Levy, 691 St. John's Place, Brooklyn.

* * *

Resumes Work After Period of Idleness

The Cartwright Bros. pottery at East Liverpool, Ohio, which has been idle for several weeks, resumed operations February 14. Considerable new business has been received by this firm of late, and during the idle period some needed repairs were made to the plant.

* * *

Conditions Improving

When Burt R. Day, of the Day Crockery Co., of Cedar Rapids, Iowa, was in the East Liverpool, Ohio, district a few days ago he advised that an improvement in local conditions was noted because grain had started to move within the ten days previous to his leaving for the East.

CURRENT PRICES *of* COMMON BUILDING BRICK DRAIN TILE *and* HOLLOW BUILDING TILE

MANUFACTURERS of clay products, as well as other building materials, are cutting prices down to the bone in the hope of stimulating building and reassuring the cautious home builder that he will not make a mistake if he builds now. Comparing the prices on this sheet with those issued a month ago will show a marked downward trend in price of the three commodities listed. In the common brick market the reductions in but few instances are more than one or two dollars per thousand.

Reports which are being received from various parts of the country show that in some instances a reduction in price has meant a loss for the manufacturer, but in most cases increased labor efficiency and better coal prices have made a decrease in price possible.

The decreased coal prices and reduced wage scale are reflected in these prices, and it is probably safe to predict that present prices will hold firm. It is unlikely that any further reductions of any significance will be effected.

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	$28.00	.12	
Boston, Mass.	30.00	.153	
Providence, R. I.	35.00	.16	
Hartford, Conn.	30.00*	.12	
New Haven, Conn.	35.00	.10	
New York City	22.70	.13	
Albany, N. Y.	30.00	.09	
Utica, N. Y.	33.00	.08	
Syracuse, N. Y.	27.00	.08	
Oswego, N. Y.	40.00	.07	
Binghamton, N. Y.	28.00	.06	
Elmira, N. Y.	30.00	.08	
Rochester, N. Y.	24.00	.075	100.00
Buffalo, N. Y.	32.00	.055	150.00
Jamestown, N. Y.	35.00	.095	160.00
Allentown, Pa.	28.00	....	
Erie, Pa.	28.00	6.20c	140.00
Philadelphia, Pa.	25.00	.07	115.00
Pittsburgh, Pa.	20.00	.08	120.00
Reading, Pa.	19.00	.07	
Scranton, Pa.	25.00	.08	
Newark, N. J.	25.00	....	
Paterson, N. J.	25.50	....	
Trenton, N. J.	29.00	.10	
Wilmington, Del.	28.00	.08	
Washington, D. C.	24.50	.10	125.00
Baltimore, Md.	25.00	.10	125.00
Norfolk, Va.	22.50	.10	
Richmond, Va.	25.00	.12	
Huntington, W. Va.	23.00	.075	110.00
Fairmont, W. Va.	35.00	.06	120.00
Wheeling, W. Va.	28.00	.075	125.00
Atlanta, Ga.	18.00	.125	
Miami, Fla.	33.00	.24	200.00
Tampa, Fla.	25.00	....	145.00
St. Petersburg, Fla.	26.00*	....	160.50
Louisville, Ky.	23.00*	.0515	117.90
Lexington, Ky.	22.00	.10	111.50
Memphis, Tenn.	18.00	.07	
Nashville, Tenn.	17.00	.08	134.70
Birmingham, Ala.	23.00*	.15	116.00
New Orleans, La.	23.50	.09	
El Paso, Tex.	16.00	....	100.00
Houston, Tex.	23.00	.14	113.10££
Dallas, Tex.	20.00	.15	120.00££
Topeka, Kans.	25.00	.065	110.00
Little Rock, Ark.	15.00*	.12	
Oklahoma City, Okla.	20.50	.05	88.50
Cincinnati, Ohio	23.00	.0708	90.00¶
Cleveland, Ohio	19.00	.061	75.00
Columbus, Ohio	30.00	.065	
Toledo, Ohio	32.50	.06	110.00
Detroit, Mich.	18.00	.08	105.00¶
Evansville, Ind.	17.00	.04	100.00
Fort Wayne, Ind.	23.00	.05	110.00
Indianapolis, Ind.	19.00	.06	135.00
South Bend, Ind.	24.00	.04	151.62
Terre Haute, Ind.	19.00	....	
Bloomington, Ill.	25.00	.06	100.00
Chicago, Ill.	16.00	.07	112.50
Moline, Ill.	24.00	.08	120.00
Peoria, Ill.	18.50	.06975	78.00
Green Bay, Wis.	20.00	.06	140.00
Milwaukee, Wis.	18.00	.07	130.00
Grand Rapids, Mich.	22.00	....	
Minneapolis, Minn.	20.00	.08	135.00
St. Paul, Minn.	20.00	.08	135.00
Davenport, Iowa	25.00	.08	130.00
Des Moines, Iowa	....	.08	103.00
Sioux City, Iowa	22.00	....	130.00
Kansas City, Mo.	25.00	.062	
St. Louis, Mo.	21.00	.08	98.00
Lincoln, Neb.	21.50	.08	84.00
Denver, Colo.	16.00	....	165.00
Butte, Mont.	16.00	....	
Los Angeles, Calif.	15.00	.05	100.00§
San Diego, Calif.	20.50	.105	92.50§
San Francisco, Calif.	20.00	.065	100.00
Portland, Ore.	24.00	.085	115.00
Seattle, Wash.	21.00	.09	115.00
Winnipeg, Man.	20.00	.13**	178.00
Toronto, Ont.	18.00	.075	
Halifax, N. S.	27.50	....	
Quebec, P. Q.	18.00	.065	

The prices of the commodities listed here are reported as delivered on the job, and are, therefore, higher than the plant prices. This should be taken into consideration when examining them. If you have any information that would tend to prove these prices incorrect, the editors of **Brick and Clay Record** will be glad to hear from you.

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% disc., 15 days.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipment; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

What Can You Pay For a Soot Cleaner?

Very often, these days, engineering problems are figured on a capitalization value basis. For example, one engineer figured the "capitalization value of a steam leak" and he found it to run up into the thousands of dollars for the smallest leak. That is, the cost of almost any leak represents interest on a comparatively large capital sum.

In the same way, it is well to compute the capitalization value of engineering products such as cleaners for boiler tubes—inside and out-belt dressings, feed water heaters, economizers, forced draft blowers, boiler feed regulators, or paint for keeping air from leaking thru brick settings into the combustion gases, thus diluting them, and so on. Invariably it is found that these fuel saving devices are very good paying investments.

As the writer has been doing some computing on soot cleaners of late a formula was developed to assist the possible purchaser in determining the amount of money he can afford to spend for such a cleaner. The formula is:

$$4\,C\left(\frac{W}{\dfrac{EH}{457\,(T-t)}+1}-42\,N\right)=\text{Value of Cleaner}$$

Where:

W = number of tons of coal burned per year;

C = cost of coal per ton in dollars;

E = boiler efficiency in per cent. before installation of soot cleaner;

H = heat value of coal in B. t. u. per pound;

T = temperature of chimney gases before installation of cleaner;

t = temperature of chimney gases after installation of cleaner;

N = number of boilers in use.

The result obtained by substituting in this formula could perhaps be properly termed the "capitalization value of a soot cleaner." The formula assumes that the purchaser of the cleaner expects to realize 25 per cent. on his money including interest, depreciation and upkeep.

For example, if the annual coal consumption in a given furnace is 10,000 tons of coal per year, boiler efficiency before installation of the cleaner is seventy per cent., temperature decrease $(T-t)$ is fifty deg. F.; number of boilers is one, and the cost of the coal is $5 per ton, substitution in this formula will show that the boiler owner can afford to pay $4,460 for a cleaner.

In the above formula it is assumed that 18 pounds of air are used per pound of coal as fired, that there are six elements in an average installation, that the boiler is cleaned four times per day, that the boiler is cleaned and operated 300 days per year and that the average rate of evaporation is six pounds of steam per pound of coal.—*By W. F. Schaphorst.*

* * *

A New Belt-Testing Machine

With the use of a new kind of machine for the testing of belts, which is giving accurate information as to the efficiency of power transmission and slip of the belt under all conditions of operation with different kinds of pulleys, the school of mechanical engineering at Purdue University, Lafayette, Ind., is supplying valuable data for factories in Indiana and many in other states, on this source of power.

Its essential features consist of a heavy steel frame work carrying a driver and a driven pulley, each pulley being connected to an individual torsional dynamo meter, which measures the power being given to the pulley. By this means, the power being received and delivered can be measured and the efficiency of the drive computed. Power is supplied by an electric motor.

On the delivery end of the machine the power transmitted is absorbed by an absorption dynamo meter. Means are also provided for measuring the slip of the belt and the static and running belt tension. The machine will accommodate belts varying from five to thirty feet between centers of pulleys.

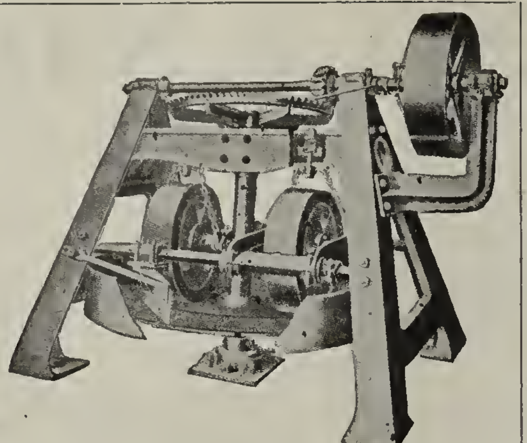
Work to be Done During Oxidation Period

As stated in previous items in this department, there is no distinct line of separation between the dehydration and oxidation stages of burning clay ware. These periods overlap and as dehydration of the clay is being completed, oxidation of the minerals and compounds is already under way. The last traces of water in the clay should be removed by the time that the temperature of 1,020 deg. F. has been reached. This point then is the end of the dehydration period.

When this temperature has been reached, half of the sulphur from the iron pyrite has been oxidized and passed out of the kiln as suphur dioxide gas. All of the organic matter and volatile carbon has been converted into carbon dioxide gas and part of the carbon dioxide, that which existed in the state of ferrous carbonate, has been removed from the clay.

There still remains in the ware at a temperature of 1,020 deg. F. however, material to be oxidized such as graphic carbon, sulphur in the form of iron sulphide FeS, carbon dioxide in the form of carbonates of calcium, magnesium and so forth. The object of the oxidation period is to remove the carbon dioxide from the minerals existing as carbonates; to remove the graphitic carbon and to remove the sulphur existing as iron sulphide.

THE
EAGLE
DRY
PAN



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What Your Requirements
May Be — We Have the
Car for Your Needs*

Dryer cars of any size or type. Transfer cars turntables, wheel barrows, wheels.

Send us your requirements and let us figure for you. ***No*** **obligation whatever.**

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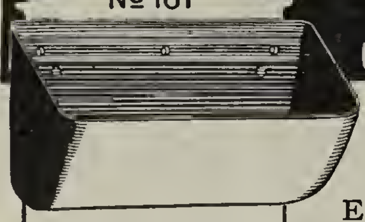

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Brick and Clay Record

QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Cost of Producing Common Brick

960. *New Jersey—We have had a request for the cost of production on common brick. Any figures or general statement which would show the generally accepted cost of production in this line would be of use to us.*

There is no such thing as a general figure for the cost of production of common brick. There is perhaps a greater variance in the cost of manufacturing clay products than in the manufacture of any other commodity.

This is due to the difference in the cost of coal, labor, and materials in various sections of the country. Also, freight rates have a very important bearing upon the cost of clay ware.

The brick manufacturer is confronted with other problems, such as the physical properties of his raw material. Thus, whereas one clay may require five days for burning, another may require eight days. Also, some clays require higher temperature for burning than others which entails the use of more fuel.

⁂

What Causes These Troubles?

961. *Pennsylvania—We are having considerable trouble with the manufacture of our brick as outlined below. The mixture that is causing the most trouble is a fire brick body of 85 per cent. flint and 15 per cent. plastic clay. The process of manufacture is as follows:*

The clay is tempered in a wet pan and then conveyed to the pug mill where it is again tempered before going into the brick machine. The rest of the process is the same as in ordinary stiff mud brick manufacture.

The trouble that we are having is that the column cracks on the sides, the cracking taking place immediately after the column leaves the die. Secondly, the clay bakes to the inside of the nozzle and gets very hard like cement. Thirdly, the clay backs out of the nozzle and into the hopper. The result of this is a reduced production and also a lot of trouble. We put on a new nozzle and new augers but found no improvement. We will certainly appreciate any help that we can get from your columns.

Several opinions have been given as to the cause of the above difficulty, one of which is that the mixture is evidently too low in plasticity to work satisfactorily in the average stiff mud machine. It is always difficult to handle a mixture with as much non-plastic as this without the troubles which are encountered. It may be possible to improve conditions by using a die of fairly short length and with little or no taper. This will decrease resistance to flow in the die. It is probable that there is a straight offset between the nozzle and the die of the machine. This would be largely responsible for the caking of the material inside of the mouth. More satisfactory results can be obtained if there is a gradual slope to the throat of the die on all sides, leaving no corners and giving a better opportunity for the clay to flow and shape itself for the column.

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You,Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

Another view of the situation is from a prominent ceramic engineer who states that the problem is one of those matters for which it is very difficult to suggest a definite remedy without really making a personal examination of the case. He says:

"On the face of the proposition, I would say that the main trouble is with the die. I note that the correspondent speaks of the 'nozzle' in several instances. The throat of an auger machine is often called the nozzle but I presume he really refers to what should probably be called the die. His mixture is very 'short.' This should normally require a die with but little taper and it may be that his die has considerable taper and, therefore, the friction created as the clay passes thru it tends to tear the corners of his bar besides also tending to make the clay back out past the auger.

"If the die is not faulty, as suggested, then I would say that the lubrication of the die should be looked into with a view to thoroly lubricating this part of the machine in an approved manner and with proper material.

"The last possibility would be the design of the auger. Perhaps if the flights of the auger were so tilted as to concentrate the pressure at the center of the die, his troubles might be relieved.

"All three of the above or any single one may be the cause of his trouble but investigation alone can make the cause of the trouble certain.

"I do not understand what he means when he says the clay bakes to the inside of the nozzle."

Another technical man of considerable clay plant experience writes: "In answer to your letter of the 15th ult. one cannot judge a difficulty from a description.

"So far as I can conclude from the description of the trouble I would reach the following conclusion:

"The material has very little plasticity and mobility, and in consequence does not flow readily under pressure. In order to force it thru the die excessive pressure must be applied which would tend to flush the clay content to the surfaces, but why the latter should bake on the die, I cannot explain, unless considerable frictional heat is developed.

"The cracking of a clay bar is not uncommon and some times it is due to the shape of the die back of the nozzle, but it may be due to unequal die friction. The sides of the die offering greater resistance than the edges would result in a tendency of the bar to split and the upper half curl up and the lower half curl down. The tendency to splitting may only go far enough to develop a crack.

"That the mass backs up in the machine is in consequence of the excessive forward pressure. The mass will flow in the direction of least resistance. To correct this trouble and increase the production, the die should be shaped to offer the least resistance, the augers should fit the casing snugly, and finally the casing must be rough enough to offer greater resistance than the friction of the auger, otherwise the mass will simply turn with the auger, partially or totally and there be no forward movement thru the die, or only a little depending upon the holding power of the casing and the slippage of the auger blades in screwing the mass forward. Where the clay

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BURN ANY COAL
Never mind the quality; put it up to
CANTON Rocking and Dumping Grates
to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.
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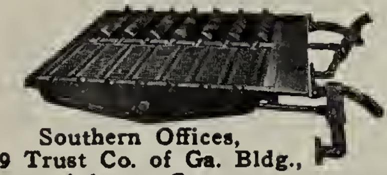
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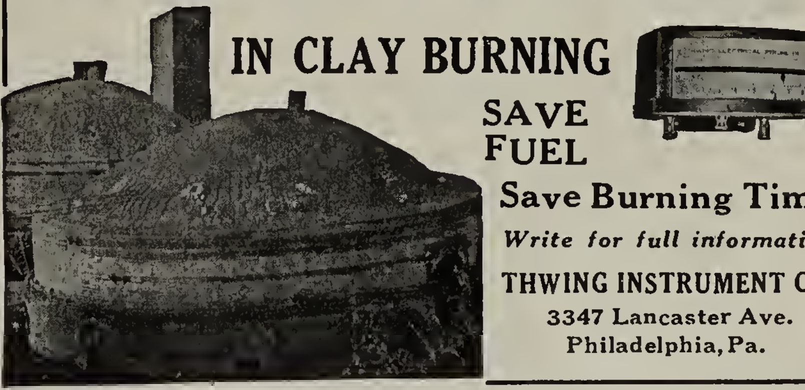
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ONE MAN DIGGER
for the CLAY and TILE PLANT PIT
Designed especially to handle material for the average brick or tile plant.
Dependable, efficient, economical—oil engine operated
LOW IN PRICE—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.
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Established 1905

It is scarce and expensive besides taking longer to burn your ware, and considerable

More Labor—

USE OIL

The Schurs Kiln Burners in your kilns mean—Quick Burns, Better Colors, complete control of fire and

Great Labor Saving

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Los Angeles, Calif. U. S. A.

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Malleable Iron Kiln Band and Plate Fasteners

The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

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1202 Racine treet RACINE, WISCONSIN

Gilmer Solid Woven BELTING

Efficiency in meeting abnormal conditions of grit, dust, moisture, heat and gas stamps Gilmer Solid Woven Belting as ideal for the brick and clay field.

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CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
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turns with the auger there can be no forward movement, and any clay brought forward to the auger must double back."

There are undoubtedly other men in the industry who have views on this problem that would be of considerable value and aid to our correspondent. *Brick and Clay Record* invites these men to send in their suggestions.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Clay Industry Loses Veteran

The death is announced of Mr. Sol. R. Crown, president of the Material Service Corp., Chamber of Commerce Bldg., Chicago, Ill., who for more than ten years was sales manager of the Chicago Fire Brick Co. and had been executive head of the Material Service Corp. since its formation in 1918. That firm is a well-known Chicago dealer operating three yards and being the local representatives for Pennsylvania Fire Brick and St. Anne Clay Products. Mr. Crown was a warm friend and supporter of *Brick and Clay Record* which he considered indispensable thruout his many years of association with the industry.

New York Brick Man in Columbus

H. S. Longworthy, superintendent of the John H. Black Co., of Jewetville, N. Y., was a business visitor in Columbus the latter part of February.

Makes Business Trip to Dayton

John Cooper, sales manager of the Columbus, Ohio, office of the Thomas Moulding Co., left March 1 to meet Staver Moulding in Dayton, Ohio, to look over the situation.

Accomplishes Two Objectives in One Trip

H. C. Kleymeyer, of Evansville, Ind., killed two birds with one stone when he came to Louisville on February 23, to attend the state convention, the stockholders' meeting of the West Point (Ky.) Brick Co., being arranged for the late afternoon of the same day.

Joins American Refractories Co. Staff

I. A. Krusen, who until recently has been identified with the Laclede-Christy Clay Products Co. of St. Louis, Mo., has just made a change which will bring him to the Joliet, Ill. plant of the American Refractories Co. Mr. Krusen has had considerable experience in fire brick manufacture, especially in the production end.

Assumes Position with Consulting Engineers

Howard C. Arnold, well known in ceramic circles, has recently joined the staff of Arthur D. Little, Inc. of Cambridge, Mass. After the war Arnold studied optical glass at the Bureau of Standards for a short time, and then became chief chemist and plant manager of B. F. Drakenfeld and Co., New York City, where he was chiefly concerned in developing ceramic materials, especially the coloring oxides.

Ortman Locates on Pacific Coast

The Pacific Mineral and Chemical Co., which operated clay interests at Glendale, near Los Angeles, Cal., has recently been reorganized under the name of the Tropico Potteries, Inc. This concern will manufacture sewer pipe, Faience tile, architectural terra cotta and will mine and grind talc.

The plant comprises twenty-one kilns and covers an area of thirty-seven acres of ground. Oil is used as fuel in winter and gas in summer. The concern was purchased outright by Stephens and Co. investment bankers on the Coast.

The president of the new concern is B. M. Wotkyns. The vice-president and general manager is none other than Fred B. Ortman, who until recently was connected with the Northwestern Terra Cotta Co., of Chicago. Mr. Ortman is a young ceramic engineer who has made good both as an engineer and executive. His work at the Northwestern Terra Cotta Co. in the building and equipping of a new plant embodying many revolutionary methods stands out as a great credit to his technical ability. His many friends know that he will make a success in his new position because of his natural ability and pleasing personality.

Tucson, Arizona, Prices Go Down

The brick men of Tucson, Ariz., have agreed on a reduction of prices in order to stimulate building activity and create more jobs there. The Pima Brick & Tile Co., the City Brick Co., and the Tucson Pressed Brick Co., have decided on a reduction of five per cent. on all brick put in the wall.

California Now Has a "Western Brick Co."

The Western Brick Co., Los Angeles, has been incorporated with the following directors: G. A. Wild, Mary H. Wild, August Fischer, J. J. Lagomarsine and L. F. Schulze all of Los Angeles. Capital stock is $50,000 of which $500 has been subscribed. T. C. Gould, 1021 Washington Building, is attorney.

Claims Eastern Prices Higher Than California

Con Harrigan, kiln man at the Exeter, Cal., S. P. Brick Co. plant recently returned from a six weeks' trip thru the Eastern states and reports having visited many brick plants in the East. He reports the price of brick in that section of the country as much higher than in California.

Alberhill Clay Deposit One of Largest

A model community in which a group of allied pottery plants will be operated is to be established at Alberhill, Cal., seventy-four miles southeast of Los Angeles by the Los Angeles Pressed Brick Co. Workmen's houses are to be erected of clay tile. A mountain of clays is owned and already being operated there by the Alberhill Coal and Clay Co. of Los Angeles. This mountain is said to be among the most remarkable deposits of clay in the world. It contains a variety of clays in different strata suitable for every known clay product.

Regarding this mountain of clay, Charles J. Kirk, of Newcastle, Pa., president of the Universal Sanitary Manufacturing Co., made the following significant statement:

"I have heard many stories in my time about the existence of mountains of clay and I had grown skeptical: But this mountain at Alberhill is a revelation. I had never dreamed that there could exist a genuine and veritable mountain that would combine in a single group of connected deposits, so vast and varied a supply of high grade clays. It is difficult

Hercules (Red-Strand) Wire Rope

Because of its unusual strength, toughness and other wear resisting qualities, it is extremely durable.

Because of its great durability it is safe and economical.

Established 1857

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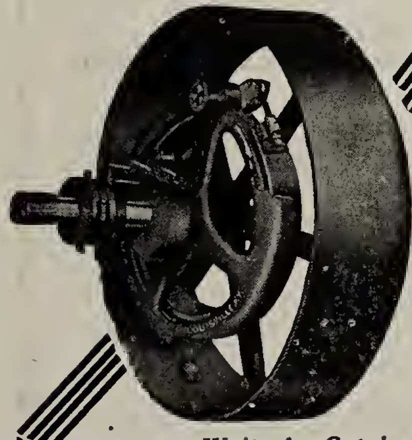


Performance

Caldwell Friction Clutches are giving years of dependable, trustworthy service. Their simplicity, ease and perfection of adjustment, and freedom from breakage assure thorough satisfaction

There are only eleven parts, all designed to have their greatest strength in the direction of greatest stress. Constructed like an automobile brake, a flexible, Raybestos-lined band gripping the entire circumference of the friction ring and transmitting all the power evenly, quickly, surely. Caldwell Clutches combine strength and dependability with unremitting, life-long service.

Write for Catalogue
W. E. CALDWELL CO.
Incorporated
400 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION CLUTCHES

ORIGINAL Boss SYSTEM **Boss Ten-Hour Dryer** ORIGINAL Boss SYSTEM

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

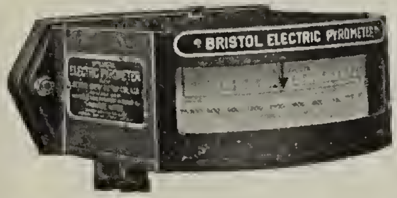
ORIGINAL Boss SYSTEM **J. C. Boss Engineering Co.** ORIGINAL Boss SYSTEM
Elkhart, Indiana

B G STANDARDIZED MATERIAL-HANDLING MACHINES

Barber-Greene-Co
Aurora-ILLinois.

Makers of
the original B-G
Standardized Belt
Conveyors. B-G Self-
Feeding Bucket Loader.

PYROMETERS FOR THE KILN



BRISTOL'S

is the pioneer industrial Pyrometer. They are made to stand up under the stress of daily use. That is the reason Bristol's are well adapted for the Brick Kiln requirements.

See Bulletin AE-291.

THE BRISTOL COMPANY, Waterbury, Conn.

Sturdiness and Ruggedness

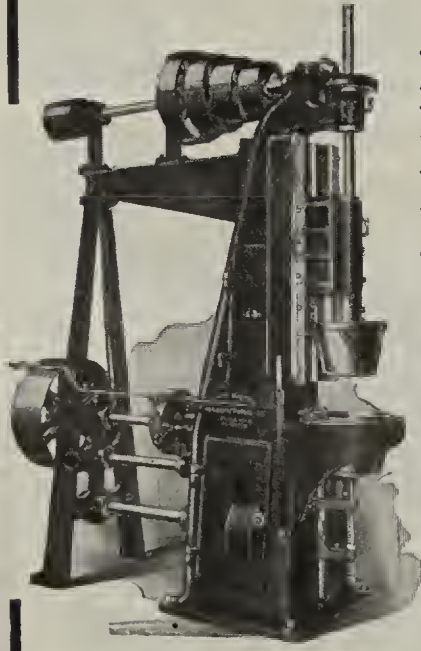
together with perfect design and reliability, make up the strong features of CONCO CARS. They are capable, speedy and safe. Pulleys, Gears and Hoists.

Let us send you information

H. D. CONKEY & COMPANY
MENDOTA :: ILLINOIS

Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?



The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.

409-11 Jefferson Avenue E.

DETROIT, MICHIGAN

to grasp its potentialities for it might almost be said to hold a national supply for an indefinite period."

The total clay tonnage mined at Alberhill and used in 1920 was 120,000 tons. The Los Angeles (Cal.) Pressed Brick Co. turned 54,000 tons of clay into brick at Alberhill during 1920 and the addition of a modern continuous kiln is proposed which will double the present capacity.

California Very Active in Clay Producing

With a general slump in brick making over most of the United States, California is setting a record for brick manufacture and is believed by Pacific Coast brick men to be leading the nation in brick and clay products manufacturing activity. The big rush for brick in California centers around the making of hollow brick. In Santa Barbara and other places brick plants have worked overtime for the last few months in order to keep pace with the demand and greater activity could be maintained at many of the brick plants only by enlarging the plants.

Development of clay deposits in Riverside county is already under way on a large scale and the clay products industry in the vicinity of Los Angeles will be increased to huge proportions within the next year or two it is believed. Confidence is expressed that the present year will witness clay deposit developments in Southern California that will add millions of dollars to the total of factory output and other millions to the more than $3,000,000 capital already invested in clay working industries in that section.

Among the new projects expected to develop in that section is a factory for making sanitary pottery, for which superior clays in abundance are said to be available; a factory for the manufacture of full lines of insulators and conduits, an establishment for the manufacture of architectural terra cotta on a large scale and another to produce chemical stoneware. Chinaware is already being made and will be heavily increased.

Other clay products now being manufactured in Southern California include: Common, face and fancy brick, building and roofing tile, enameled tiles and shapes, some architectural terra cotta, floor tile, decorative tiles, garden and art pottery, domestic and commercial stoneware and chemical stoneware, drain and irrigation tile and pipe, electrical conduits, sewer pipe, flue linings, sewer brick and the famous vitrifax forge and furnace linings. In practically all of these industries there is difficulty in keeping up with orders and in a number, orders of large volume have been refused, simply because they exceeded producing capacity. Many orders have been refused for terra cotta structural shapes because of inadequate manufacturing facilities.

Colorado Concern Changes Hands

La Junta (Col.) Clay Products Co. has purchased the plant of the La Junta Brick & Tile Co., operated by J. Mayhew, and is now working full time. Many new pieces of machinery have been installed recently and a busy season is looked for. R. R. Corneer, superintendent for the old company for the past two years will continue in that capacity for the La Junta Clay Products Co.

Lower Wages Do Not Appeal to Bricklayers

Bricklayers in Bristol, Conn., have gone on record as favoring a continuance of the present wage scale, $1.12½ per hour. Letters have been sent by the union to contractors to this effect. This amount has been received by the masons for the past year and they want it continued.

Brick Prices Lower in Connecticut

Reports from the Connecticut brick districts show that production at the majority of the plants will not be resumed until well into April, owing to the large stocks on hand at the present time, and the slackened call that has prevailed in the weeks past. The larger yards have anywhere from 1,000,000 to 1,500,000 brick in the yards, which, incidentally, will show a considerable loss when disposed of at anything like the present figures. It is pointed out that the material, manufactured under high producing and labor costs last year, warranting a price of $30 and upwards at the yards, can be secured today for around $20 a thousand.

New England Looks for Early Start

The mild winter in New England, with every indication of an early spring, is causing many brick manufacturers to consider an early reopening of their plants. Except in the extreme northern sections of New England there is little or no frost in the ground and snow is almost unknown so that these two factors are virtually removed in consideration of resumption of manufacture. In the vicinity of Berlin, Conn., several of the larger yards may delay manufacturing until April or until some part of the present stocks are disposed of. Some yards are reported to have on hand from 1,000,000 to 1,500,000 more brick than is usually the case at this season of the year. Most of this was made when materials and wages were at the highest level and brick was selling at upwards of $30 per thousand. The present price in that section is about $20 which it is claimed is less than the actual manufacturing cost. Predictions of a real building boom which would mean plenty of orders for brick are frequently heard but thus far the orders, according to dealers have been few, small and far between. A building trades strike now in its second month is holding up all building of consequence in the immediate vicinity of Boston and there is little apparent prospect of an immediate settlement.

To Make Sizable Plant from Little Unit

The Standard Poured Brick Co., Miami, Fla., is planning for the erection of a large addition to its plant in the Miami Canal district. The present works have a nominal capacity of about 3,500 brick per day, and it is proposed to increase this to an amount varying from 25,000 to 35,000 brick per day.

Clay Company Changes Name

The concern formerly known as the Salveson Face Brick Co., Petersburg, Ill., has been renamed Petersburg Brick & Tile Co. The reason for this change is the fact that Mr. Salveson, president and manager of the company, has resigned his position.

Ohio Has New Clay Mining Concern

The Clay Sales & Supply Co., of Zanesville, Ohio, has been chartered with a capital of $5,000 to operate clay mines, manufacture clay products of all kinds and deal in all supplies and clay products. The incorporators are Byron C. Ramsey, Emmett E. Lewis, Merle L. Lewis, Lester D. Bell and James N. Bell.

Big Ottawa Company Opens

Chicago Retort & Fire Brick Co., Ottawa, Ill., has resumed operations, it was announced recently. The business outlook is not good at the present time but the company hopes to be able to keep the plant going six days a week gradually increasing the force as conditions improve.

SCHAFFER

The Schaffer Poidometer

It will replace your pug mill man — mix and weigh your clay with 99.75% accuracy — give you everlasting service at minimum expense—better the quality of your ware—and speed up the efficiency of your plant in general. We say the *Schaffer* can do these things and we ask you to give us a chance to back up our statement.

Information and catalog cheerfully furnished on request.

WRITE TODAY

The Schaffer Eng. & Equip. Co.
Peoples Bank Building Pittsburgh, Pa.

You Must Cut Your Costs—But How?

Use the RUST SPECIAL FEEDER MIXER. It will save the labor of two or three men and raise the efficiency of your plant in general. It keeps your offbearers busy at all times and the repairs and upkeep are too low to be figured.

Write today for information concerning all MARION EQUIPMENT for clay plants.

No obligation whatever.

Marion Machine Foundry and Supply Co.
Box 395 Marion, Indiana

Jenkins Brass Gate Valves
(Standard Pattern)

Fig. 370 is designed for 125 pounds working steam pressure or 175 pounds working water pressure, and can be repacked when wide open under pressure. Equipped with non-heat hand wheels; or can be furnished with brass wheels, finished or plated, or special finish according to requirements.

Sectional view of Figure 370.

Figure 370

Sold at supply houses everywhere. Look for the Diamond Mark on the body.

JENKINS BROS.
New York Philadelphia St. Louis San Francisco
Chicago Pittsburgh Boston Washington
Montreal London Havana
FACTORIES:
Bridgeport, Conn., Elizabeth, N. J., Montreal, Can.
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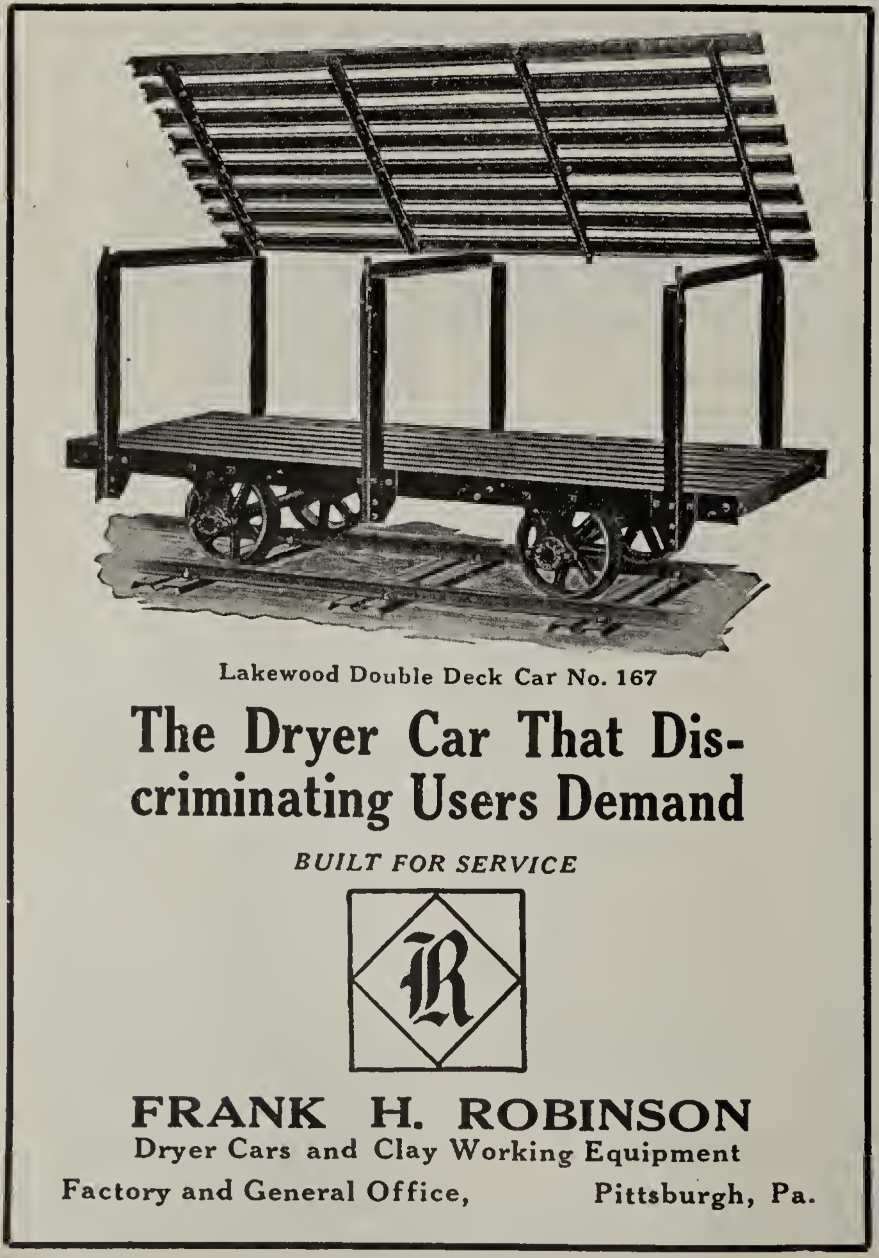


Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

Face Brick Getting Many Inquiries

A. E. Davis, of the Western Brick Co., Danville, Ill., is optimistic concerning business during the coming year. He says that while the actual demand has not increased perceptibly, yet the large number of inquiries being received for face brick show the public trend toward this class of construction. He thinks the advertising campaign carried on in a national way is one of the real causes behind the increased demand for brick. He also is convinced that despite the action of some counties, there will be more road work done during the year than was done last year.

Gary Brick Down To $14

Announcement is made that the price of sand lime brick in Gary, Ind., is down $1 per thousand. The new price is $14.20 f.o.b. cars Gary. Gary builders expressed the opinion that this reduction would have an immediate effect on the building activity. Chicago prices remain at $16 and an immediate reduction is not looked for.

Brick Prices Recede

A decrease of $2 per thousand in the price of its brick was announced recently by the Moellering Brick Co., Ft. Wayne, Ind. Prices of the company's brick will be as follows: Kiln run red building brick, $21 per thousand; line or face brick, $25 per thousand, delivered in team loads within the city limits.

Elects New Officers

At a meeting of the stockholders of the Standard Shale Brick Corporation, Crawfordsville, Ind., the following officers were elected: President, G. J. Schlider; vice-president, D. L. Brookie; secretary-treasurer, Charles McGaughey. Reports on the year's activities were very favorable and prospects for another prosperous season are bright.

Brick Popular as "Better" Material

W. A. Shoemaker, of the Bloomfield Brick Co., Indianapolis, Ind., says the number of inquiries being received leads him to believe that there will be more brick residence construction in Indianapolis than for some years. He says it appears that the builders and owners are demanding a better grade of construction from the modest prices up thru the high class dwelling construction.

Change in Corporation Laws Important

A bill has been introduced in the Indiana Legislature which would provide that eighty per cent. of the numerical stockholders in any corporation may dissolve the corporation regardless of the fact that they do not own fifty-one per cent. of the stock. The bill applies particularly to manufacturing mining companies and companies formed for building purposes.

Asks Repeal of State Highway Laws

A bill was introduced by Senator Nejdl of Lake County in the Indiana Senate recently, providing for the repealing of the law under which the present State Highway Commission operates. It was referred to the Committee on Roads. The bill provides that the funds available for the commission shall go to the State school fund when the commission winds up its business. If the bill, which is in the nature of a protest against the expenditures of the commission and against its methods of doing business, should pass, the construction of highways would be placed entirely in the hands of the counties.

Brick Plant Operating Since 1865

H. C. Kleymeyer Standard Brick Mfg. Co., Evansville, Ind., which is an outgrowth of the Kleymeyer-Klutey Brick & Tile Co., of Henderson, Ky., claims that the latter organization is one of the oldest in the country, and that its two founders who are still active in its operation, represent probably the two oldest brick men in the country that have been active with one organization for as many years. The Henderson concern was established in 1865 by Henry Kleymeyer, now 80 years of age; and Fred Klutey, now 78 years of age, who formed a partnership, and started business in that year. Today the company has two plants in Henderson, controls three plants in Evansville; one in West Point, Ky., known as the West Point Brick Co., and one in Louisville, known as the Southern Brick & Tile Co. These various plants have developed a big line of clay products, brick and drain tile have been two of the leaders.

Clay Concerns Operate Coal Properties

To assure themselves of a steady supply of coal, two clay products manufacturers in the Danville, Ill., district, in conjunction with others, organized a coal company, purchased a considerable acreage containing coal and are now mining this fuel for their own consumption as well as supplying other concerns. The company is named the Northwestern Indiana Coal Co., of which Harvey C. Adams is president; Thomas Hawkins, treasurer, and Douglas F. Stevens, secretary.

Harvey C. Adams is well known in clay circles, and is president of the Danville (Ill.) Brick Co., manufacturers of paving brick. Douglas F. Stevens is general manager of the Acme Brick Co., of Danville, Ill., with a plant at Cayuga, Ind.

The coal lands are located at Humrick, Ill. and a long spur track was built to the property to connect with the Cloverleaf and the Southeastern railroads. The mine is worked by the open pit method with a six-yard shovel having a 92-foot boom. The capacity of the coal mine is 500 tons a day.

Road Commission Charged with Inefficiency

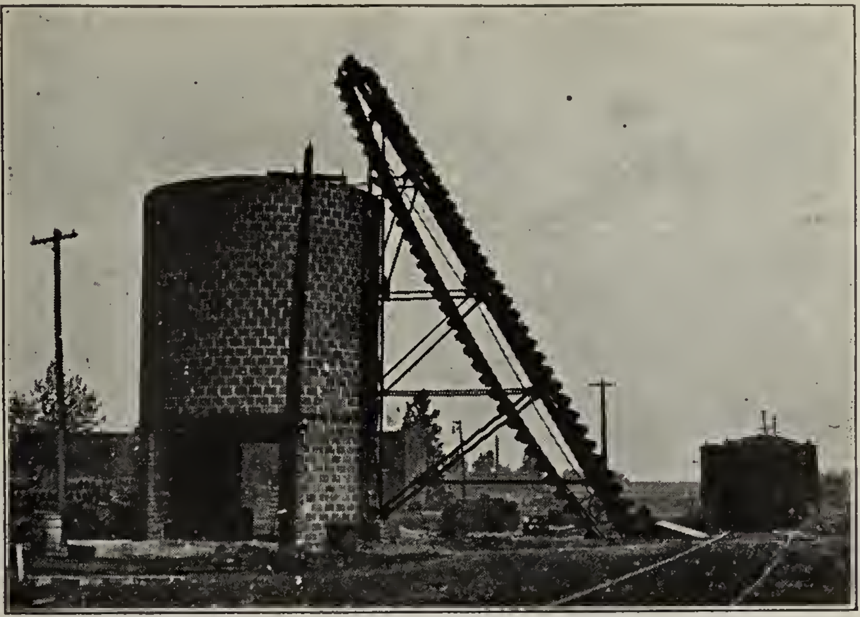
Radical changes in the laws governing the administration and operation of the Indiana state highway commission are recommended in a report of the state board of accounts, made after an exhaustive investigation of the affairs of the commission from June 4, 1917, to Sept. 30, 1920. The report was prepared by W. H. Glidewell and A. L. Donaldson, field examiners, and filed Feb. 18 with Jesse E. Eschbach, chief examiner.

The principal findings and allegations contained in the state board of accounts reports on the state highway department follow:

State money in sums of approximately $100,000 at a time were turned over to L. H. Wright, director of the highway department, and deposited with the Aetna Trust and Savings Co., of which he is an official, and checked out by him personally for department expense. A total of $2,552,696.08 was so deposited. Owing to the method of handling, the state lost $443.97 interest. Mr. Wright's bond is $25,000. The report says it is doubted if it covers any of the money so handled, and that checking out of expenses should be done by the auditor of state direct to the person to whom the money is to be paid.

The Ohio state highway commission in 1920 expended for "administration, salaries, new equipment, repairs of equipment," 5.7 per cent. of the amount it expended for new construction. The Indiana department spent 31.7 per cent. The Ohio department was begun in 1904. The Indiana department in 1917 and then again in 1919.

The average contract award price a mile of the 135 miles of roads under construction is given as $35,611.14, without having figured in cost of engineering, inspection, administra-



55 Tons of Lump Coal Unloaded In 50 Minutes

That is what a Sunbury Automatic Car Unloader does in filling a coal bin for the Krick-Tyndall Co., Manufacturers of Tile and Blocks, Decatur, Ind.

Think what it means to unload a car of coal, this day of car shortages and labor scarcity, in approximately one hour. It's real ECONOMY as well as co-operation in solving the great railroad difficulties.

The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."
THE UNITED STATES ROOFING TILE CO.
5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

Rollin Chemical Corp.
Equitable Building
120 Broadway, New York City

BRICK MUST HOLD UP ITS REPUTATION

tion, office equipment, supplies, meals, lodging, auto hire, railroad fare and other overhead which would show actual cost.

The department may receive in the present fiscal year a total of $7,356,725.11, it is estimated, but it is doubted if the department can build roads fast enough to expend the money.

Notwithstanding the law provides that Purdue University shall be available for testing road materials; more than $5,000 was paid to Pittsburgh and Chicago firms for such work.

Some counties of the state bear a portion of overhead maintenance expense, altho no maintenance work was done in them. The overhead cost for maintenance varied from $585.48 a mile in one county to $73.43 in another.

Receives Large Brick Order

A report states that the Rockford (Ia.) Brick & Tile Co., in the order for 1,500,000 brick for the Hampton Brick & Tile Co., at New Hampton, Ia., received the largest single order ever handled by that concern.

Opens for Spring Season

After a shut down of several months duration, Fredonia (Kas.) Brick Co., it is said, has resumed operations. During the period of inactivity the necessary repairs and rebuilding of machinery was accomplished.

High Freight Rates Reduce Competition

Secretary J. Crow Taylor, of the Kentucky Clay Products Association, in discussing effect of increased freight rates, said: "It is merely resulting in closer zoning of brick, which is reducing outside competition, and making it easier for manufacturers in any given locality."

Not Much Business Looked for from Farmer

Dealers and producers of glazed tile in Kentucky, such as used in silo construction, are not looking forward to any big business this season from the farmer, as agricultural conditions have been such that the farmer is out of the market on any and everything that he doesn't actually have to have.

Architects Insisting on Cement Mortar

It is noticed that demand for special cement mortars for laying brick are increasing steadily in Kentucky, this being due to the fact that some of the cement manufacturers have brought forth excellent cement mixtures, and many of the architects today are specifying that brick shall be laid with mortar containing at least ninety per cent. Portland cement.

Changes from Hand to Steam Power

A. H. Schneider, Nicholasville, Ky., who has been operating a hand brick yard for a number of years, is now putting in steam power equipment. Mr. Schneider states that he has been in the brick business since he was 13 years of age, and operated yards for nine years at Owenton, before coming to Nicholasville, where he has been operating a hand brick plant for 18 years.

Spring Demand Will Find Manufacturers Ready

Harry C. Warren, of the R. B. Tyler Co., Louisville, Ky., reported improving demand and fair prospects for business. Mr. Warren stated that in spite of reports of low stocks in manufacturing hands, he was convinced that the brick companies in Ohio, Indiana, Illinois and Pennsylvania have fair stocks on hand, and therefore is not of the opinion that there is much chance of any shortage of brick in event of a good spring demand.

THE KILN OF SURE CONTROL
AMERICAN
DRESSLER
TUNNEL KILN

PENNY WISE AND POUND FOOLISH

is the man who continues
to pay more to

BURN BAD PRODUCT

than to

BURN GOOD PRODUCT

American Dressler Tunnel Kilns, Inc.
1740 East 12th Street,
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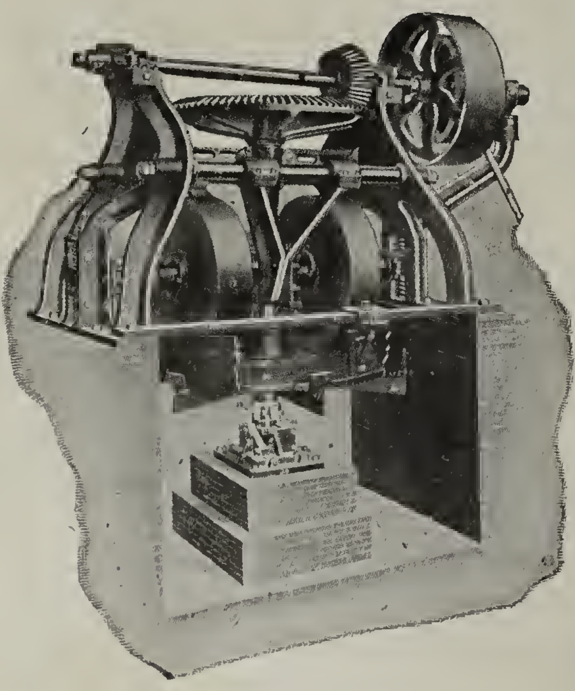


Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.
All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY
General Offices and Works: WELLSVILLE, O.
Western Sales and Engineering Offices, Monadnock Building
CHICAGO, ILLINOIS

Sells Many Thousand Tile for Facing

The Madisonville (Ky.) Drain Tile Co., which is now making standard 5x8x12 tile, and other sizes, and which joined the National Association a short time ago, in connection with its drain tile business many years ago started production of a single shell, 4x8x12 building tile, in smooth and rough texture surface, which developed into a material used as a surface brick, and has been largely used in that section of the state not only in construction of garages and business buildings, but in bungalows. The smooth surface tile was not glazed, and the company sold them by the thousand, in much the same way as brick are sold.

Coal Dealer Handling Building Materials

Leo M. Parsons, who several years ago was with Owen Tyler, in the brick and building supply business, is back in the game again as manager of the building supply department of the R. C. Tway Coal Co., Inc., Inter-Southern Building, Louisville. Mr. Tway conceived the idea that building supplies could readily be handled thru the coal yards, using the same delivery equipment when not rushed with the coal business. He secured Parsons to manage the line, and put in a big display room. Parsons has secured a high grade line, which includes the "Hytex" brick line, Natco tile, of the National Fireproofing Co., and other lines, including hydrated lime, mortar colors, hollow tile, face brick, common brick, fire brick, fire clay, etc.

Peculiar Shades of Face Brick in Demand

Since a few years back when demand developed for peculiar shades and colors in brick, there has developed a big demand for brick that a few years ago were thrown in the cull pile, and principally used in construction of cheap factory buildings, garages, and odd construction, inside brick, etc. The architects in search of artistic colors and styles developed a demand for brick that were burned to peculiar shades, and the cull pile today is eagerly watched by jobber as well as architect. A Kentucky jobber recently remarked that he planned a trip to a number of small brick plants in the state, especially one plant that has been making brick by hand for many years, believing that he could pick up some fair samples, which would make hits as facing brick, as different methods of production and burning, along with peculiar clays in some sections, produced unusual types.

In discussion of this matter he remarked: "The face brick game is really about ninety per cent. desire for something different. I remember one case where a manufacturer was almost unable to sell his brick as common brick, and later he discovered that they were similar to some fine grades of face brick. He tripled the price he had been asking for them as common brick, went after face brick business, and he got it."

Brick Company Receives Damages

The Potomac Fire Brick Co., Westernport, Md., has received a verdict of $3,285 against the Baltimore & Ohio Railroad in a damage suit brought against the road for $10,000. The company claimed the damages as a result of the derailment of a train, which ran into and destroyed a portion of its property.

Brick Companies Show Big Investments

The Winchester Brick Co., Boston, Mass., has filed a financial statement with the state showing assets of $327,678, of which $158,507 is in deferred charges. The company's real estate is valued at $100,000 and machinery at the plant at $48,398.

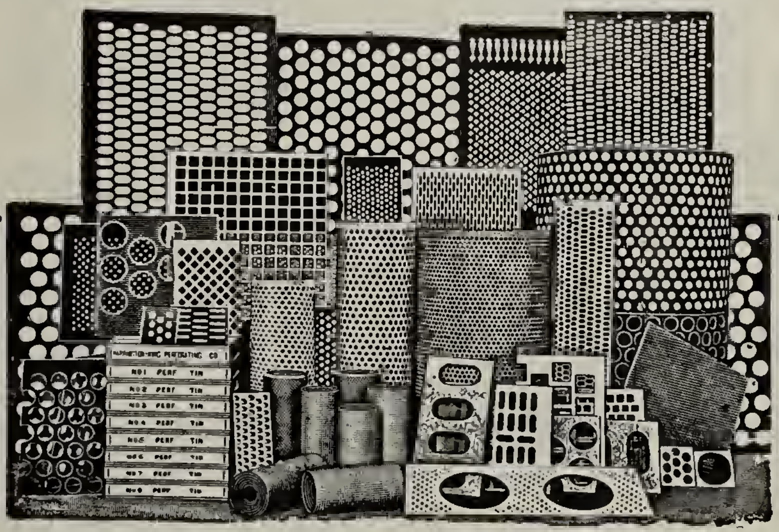
An equally interesting statement has been recorded by the Springfield Brick Co., Springfield, Mass., showing total assets

Perforated Steel Screens
Of Every Description

For Screening Clay, Shale, Sand, Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity, Durability and Satisfaction

The Harrington & King Perforating Co.
635 N. Union Ave., Chicago, Ill.
NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

The Roessler & Hasslacher Chemical Company
709-17 Sixth Ave. New York
Chicago, Ill. Cleveland, O. St. Louis, Mo.
Kansas City, Mo. San Francisco, Calif. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
Cincinnati, O.

Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife, Mary Anne, could never cook beans quite to suit his taste. As a matter of fact they were usually burned on top. Mary Anne's stove suffered from about the same ailment as a great many Heat Treating Furnaces do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to heat radiation from many uninsulated surfaces.

Insulation with SIL-O-CEL of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Heat Treater's furnace would guarantee an even temperature in the oven. For the Heat Treater, this would not alone eliminate one of the most risky elements, but would also save fuel by preventing the escape of 60 to 70 per cent. of the unused heat which ordinarily radiates from the outer surfaces.

CELITE PRODUCTS COMPANY

NEW YORK, 11 BROADWAY
PHILADELPHIA, LIBERTY BLDG
PITTSBURGH, OLIVER BLDG
CLEVELAND, GUARDIAN BLDG
DETROIT, BOOK BUILDING
CHICAGO, MONADNOCK BLDG
ST LOUIS, 1532 OLIVE STREET
LOS ANGELES, VAN NUYS BLDG
SAN FRANCISCO, MONADNOCK BLDG

If you are interested in getting more data on how insulation with SIL-O-CEL will increase the efficiency of your heat treating equipment we will be glad to send you a copy of our Bulletin V-5A.

SIL-O-CEL
PREVENTS HEAT PENETRATION
TRADE MARK REGISTERED U.S. PATENT OFFICE

HY-GRADE MANGANESE CO.
WOODSTOCK, VA.

Miners
and
Grinders

Especially Prepared for Brick Making

Sales Office: CHARLESTON, W. VA.

of $172,063. The company's real estate and machinery represents an investment of $71,669. R. A. Bailey is treasurer.

G. P. Anderson Heads Building Supplies Co.

The organization of a new company at Lansing, Mich., known as the Brick & Supplies Corporation, has been announced. George P. Anderson, formerly with the Briggs Co., and well known in building supply circles, is president and general manager of the new company. The concern is capitalized at $100,000 and will specialize in the distributing of clay products.

Mr. Anderson has had a wide experience in this field, having been connected with the Wisconsin Lime & Cement Co., of Chicago, the Detroit Brick Sales Co. and the Cuyahoga Builders Supply Co., of Cleveland, Ohio. Officers associated with him in this new venture are Wm. H. Porter, vice-president; James F. Hamell, secretary and treasurer. These men and J. W. Wilford, E. C. Shields, E. H. Clark and Harry Bond constitute the board of directors.

Big Fire Brick Plant Curtails Operations

The A. P. Green Fire Brick Co., Mexico, Mo., has arranged for the operation of its plant on a four-day week working schedule until further notice. The reduction is due to the slackened market conditions.

Adopt New Name

Papers have been filed by the Indiana Secretary of State showing that the American Sewer Pipe Co., a New Jersey corporation, has changed its name to the American Vitrified Products Co.

Fire Brick Company Continues Improvements

The reduced call for fire brick and enameled brick is having no effect in curtailing improvement work at the plant of the Sneyd Enameled Brick Co., Trenton, N. J. Kiln betterments and other work has recently been carried out as planned by Charles T. H. Phillips, president of the company, and other improvements will be made at an early date. This company furnishes fire brick to a large number of the local potteries, and reports a considerably lower demand; the present price range is around $85 to $90 a thousand. The company has not been producing its high-grade enameled brick to any extent during recent months, but owing to the number of inquiries now being received for this material, it is likely that manufacture will be resumed with the turn of spring.

Building Four New Kilns

The Faison Brick & Tile Co., has a new plant at Rocky Mount, N. C., and is making common brick. Business is not good but spring is expected to bring with it a fair amount. Construction of four up-draft kilns of 50,000 capacity will be begun soon.

Moves To New Offices

The Hebron (N. D.) Fire & Pressed Brick Co., announce the removal of its general offices to Fargo, N. D. Business will be carried on in the new offices in the future.

Ohio School Teaches Bricklaying

One of the first public schools in the country to install a course in bricklaying was that of the high school at Springfield, Ohio, recently. More than a score of students have enrolled in the class. It will be a regular part of the curriculum.

Old Officers Re-elected

Stockholders of the Portage Silica Co., Youngstown, Ohio, at the annual meeting this week re-elected president and treasurer, J. G. Butler; vice-president and general manager, E. E. Klooz, and sales manager, L. R. Farrell.

Ohio Face Brick Men Will Meet

A meeting of the Red Group of Ohio, together with all of the dealers in central Ohio territory has been called for the Athletic Club, Columbus, March 9. A dinner will be served which will be followed by a discussion of conditions in the face brick field.

Face Brick Club Discusses Conditions

The regular meeting of the Columbus Face Brick Club was held February 28 at the Chittenden Hotel with a large attendance. Conditions in building circles were discussed and the brick people were generally optimistic of the future. W. T. Matthews, sales manager of the Claycraft Brick Co., is president and R. M. Lucas is secretary.

Ohio State Brick Plant Expanding

The Ohio state brick plant at Junction City, Ohio, will be in operation soon with a larger force of men than ever before. Last year the plant made over 3,000,000 brick and it is proposed to manufacture double that number in 1921. A force of about 175 convicts will be sent to the plant, which is under the charge of the Ohio Board of Administration.

Ohio Clay Family Growing

The Jackson (Ohio) Clay Products Co. has been chartered with an authorized capital of $20,000 to acquire land for the mining of clay and to erect a plant to manufacture clay products. The incorporators are H. P. Harding, Sydney S. Kemp, S. S. Van Cleve, P. C. Van Cleve and John P. McDonald.

Finding Market for Common Brick

The Ironclay Brick Co., of Columbus, Ohio, of which J. M. Adams, is secretary and general manager, reports a fairly good demand for common brick, altho trade has not yet opened actively. Face brick is also showing signs of returning activity. The plant at Shawnee, Ohio, which has been idle for some time, may be started within the next six weeks, altho no definite date has been set for starting.

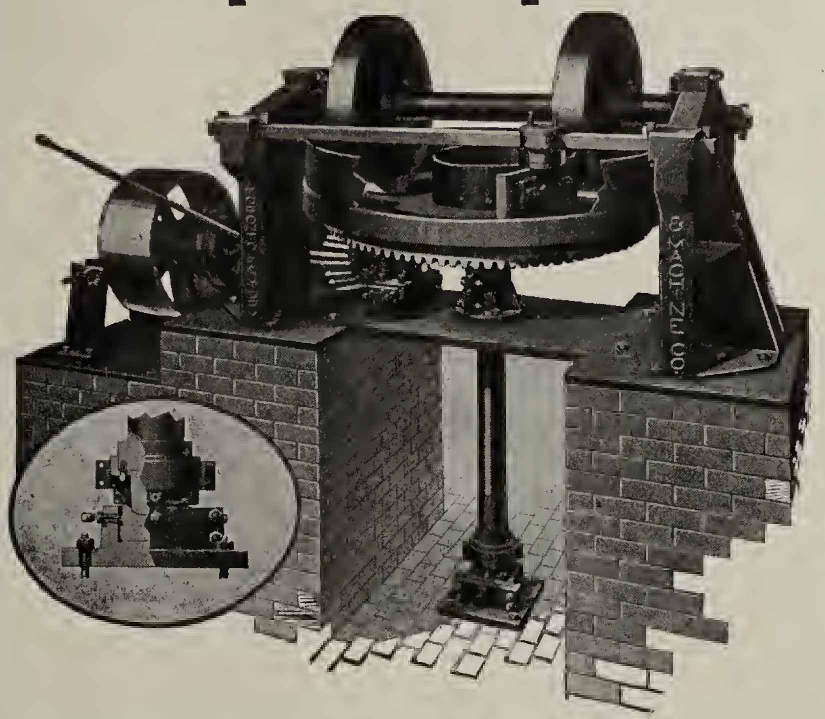
Expects to Open Plant Soon

The Claycraft Brick Co., of Columbus, Ohio, is getting ready to puts its Groveport, Ohio, plant in operation. This plant has been idle for some time, but with good prospects for building will be started. The Shawnee, Ohio, plant of the company has been in operation at about full capacity. W. T. Matthews, sales manager, is completing a long swing around the circle looking over building conditions.

Fire Causes $200,000 Loss

J. J. Pfeiffer of Akron, Ohio, head of the Logan Products Co. plant, destroyed by fire two weeks ago was in Canton, Ohio, recently in consultation with the officers and stock holders of the company. They reported a loss exceeding $200,000, partly insured and decided to build a fireproof structure. They will employ more than 400 men. Manager Cole called all the employes together and ordered them to report this week by which time the insurance adjusters will have completed their work and work of rebuilding will be started.

"Dependapans"



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St. Louis	Cincinnati	Deadwood, S. D.
Omaha	Kansas City	Spokana, Wash.
Peoria	Minneapolis	Sheridan, Wyo.

PEABODY *for* SERVICE

Doubles Capital Stock

At a meeting of the stockholders of the McArthur Brick Co., held at the main offices of the company at McArthur, Ohio, recently, a resolution was adopted increasing the authorized capital from $100,000 to $200,000. Of the new capital 10,000 shares are common stock and 10,000 shares preferred bearing a dividend rate of six per cent. H. S. Hamilton is president and O. F. Pilcher secretary of the company.

Central Ohio Common Brick Prices Drop

Common brick in Columbus and central Ohio territory continues to decline in price. During the past few weeks a still further decline for sand mold brick to $18 per thousand delivered and shale brick to $20 and $20.50 delivered have been made.

Face brick is still fairly well maintained at former levels. The price varies from $30 to $38, depending on the quality, size, and texture. Some tendency to reduce face brick prices is noted however.

Burning Hollow Tile in Dressler Tunnel Kiln

The Franklin Brick & Tile Co., of Columbus, has just completed its new hollow tile plant at Taylor Station, just east of Columbus. The American Dressler tunnel kiln has been put into operation and the heat is being brought up gradually. By the middle of March it is expected that the plant will be producing tile. The capacity is 100 tons daily. The plant is one of the most modern of its kind in the country and was visited by members of the American Ceramic Society, which held its annual meeting in Columbus in February.

Orders Not Coming In

M. M. Morrow, sales manager of the Hocking Valley Brick Co. and the Nelsonville Brick Co., reports some orders for immediate shipment, but very little business for the future. This is the worrying part of the situation as there can be no plans made as to the manufacture of hollow tile and pavers. People are not yet disposed to take a chance on the future by placing orders and consequently manufacturing is lagging. There is some business for immediate shipment which helps to keep things moving. The future is rather uncertain according to Mr. Morrow.

Twelve Million Brick Used in Big Building

No less than 12,000,000 brick were used in the construction of the new plant of the Kelly-Springfield Tire Co., Akron, Ohio, at Cumberland, Md. The plant has been in course of erection for a few years past, delayed on account of the war, and is now completed ready for occupancy. The brick were secured at prices varying from $12 to $21, or at far lower figures than now prevailing. The entire plant represents an investment estimated at $11,000,000, and it is of more than ordinary importance to appreciate the fact that brick was used in a mammoth project of this substantial character.

Much Money Available for Home Building

Changing conditions in business and building circles were discussed at a meeting of District No. 10 of the Ohio Building Association League, held in Columbus, Ohio, late in February. Representatives of building and loan associations from 10 counties in central Ohio attended. Reports from all sections continue to show increased deposits in building and loan and savings associations. The Columbus League of Building Associations entertained the visitors at a luncheon. Steps were taken to take care of demands for loans for home building and reports show that there is a great deal of money available for that purpose.

Buys Next 15 Years' Output of Sand Company

The Continental Clay Co., which has headquarters in Canton, Ohio, and a branch office under the charge of Warren B. Ferris in Columbus, has contracted for the entire output of the Southern Sand & Gravel Co., of Columbus, for a period of 15 years. The Southern Sand & Gravel Co. operates dredges in the Scioto River for the production of sand and gravel.

Will Investigate Chicago Home-Building Plan

Possibility for added outlet for building materials in Cleveland, Ohio, is seen in the announcement of officials of the Building Trades Council, parent union workers organization, that an inquiry will be made into the reported Chicago plan of building trades workers buying material cooperatively and building their homes themselves, a plan evolved by O. A. Mather, of Chicago. It is possible that a delegation will be sent from Cleveland to Chicago to investigate the feasibility of the plant. Chief success of this move seems to be in the fact that a Chicago bank has allotted $5,000,000 for the purpose. Rumor has it that some banks in Cleveland will not loan money for house building purposes, which, if true, will have the effect of interfering with the introduction of the Chicago plan in Cleveland.

Many Ohio Plants to Open in March

On March 1, it is predicted that every plant in the Tuscarawas County clay district will be working. Only two are idle, one of them working part time. The only plant to cease operation is that of the Harbison-Walker Refractories Co., near Strasburg, Ohio. It was announced this week that the machinery would be dismantled and taken to other plants of the company. Several plants, one a brick plant at Stone Creek, are to be enlarged to take care of the demand for paving and building.

Only one large sewer pipe plant is closed, the Ross Clay Products plant at Urichsville, Ohio. In the Dover, Ohio, field both mills of the Dover Fire Brick Co., idle for some time, were working this week. Manufacturers report increase of orders.

More Service Work To Be Done

Plans for covering the city and state territory in the Cleveland, Ohio, district more intensively and efficiently in the interest of architects, engineers and others, are being perfected by manager Arthur S. Fielding, of the Hydraulic-Press Brick Co. in that city. The new scheme is expected to be particularly helpful in the selection of face brick to meet special needs. Meanwhile several significant contracts have been lined up by this Hydraulic-Press office, which, when closed, will require a considerable quantity of South Park plant material. These jobs will be located at Buffalo, in Detroit, in Michigan, and Connecticut, the total requiring approximately 400,000 brick. Some sizes of material being made at the South Park plant may be changed, but the lines will remain the same.

Specially designed panels and walls for the exhibit rooms of the Hydraulic-Press Brick Co. in its new Stuyvesant Building headquarters at Cleveland are nearing completion, in fact several have been installed already. It will be another month before these exhibits are completed. At that time it is probable that an informal reception to members of the building industry will be held.

Good Grade Commons to be Called "Cleveco"

Officials of the Cleveland (Ohio) Builders' Supply & Brick Co., are now paving the way for the expected rush of spring

STANLEY
Solid Woven Cotton
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Now—
Superiority
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There's profit for you too in the proof that Stanley gives.

Responsible buyers and engineers in all industries have discovered in Stanley Belting **more** efficient, **less** expensive service in many of their transmission and conveyer installations than in leather or any other woven, stitched or composition belting.

Stanley Belting has completely replaced other types because it gives better service at less cost in various, steel, textile, brick and clay and other mills, sugar and oil refineries and factories of many descriptions.

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business, and with a view toward better meeting the demands of customers for quick delivery on brick, tile and other materials, have instituted some changes in Leader-News Building headquarters. Conspicuous among these is the establishment of the sales division in one room. All orders will go thru one channel and be distributed to the different department heads as the case requires. The new arrangement is expected to expedite deliveries to the job in an even speedier manner than heretofore.

Cleveland has introduced to the public its new brick which are termed "Cleveco." That is, the name is new. Under this heading customers will become acquainted with the all hard grade common brick, to distinguish it from the kiln run brick, which henceforth will be known as the common variety. In addition sales experts will demonstrate to the uninitiated the relative value of the two grades. It is probable that the new name "Cleveco" will be copyrighted.

Will Erect Large New Unit

Immediate erection of a sixteen kiln sewer and hollow tile plant near East Canton, Ohio, to cost more than $350,000, was announced February 17 by the Continental Clay Co. Plans call for the construction of a three-story main factory building 285x105 feet. In addition there will be numerous drying sheds and outbuildings. The main buildings will be of the most modern designs known to the clay industry. All machinery will be electrically propelled and lifting will be done by compressed air. Unfinished products will be dried by waste heat from the factory.

Hollow ware used in walls and floors of steel framed buildings will be manufactured in connection with all sizes of sewer pipe. The new plant will be the sixth unit in the company's chain of clay plants operated in Ohio cities. Under the plans the plant will operate on a 200 ton daily capacity and at the outset will employ 125 men. It is expected that the plant will be completed and in full operation by fall.

The Continental Clay Co. operates five other plants in the state. Two plants manufacturing hollow ware are operated at East Greenville, a brick plant at Massillon, a foundation tile plant at Salineville and a mortar mixing plant at Columbus.

At the annual meeting of the stockholders of the company, held this week, J. A. Calhoun, Canton, Ohio, was elected president and general manager; Warren B. Ferris, Columbus, Ohio, vice-president; John H. Burns, Steubenville, Ohio, treasurer; C. E. Berridge, Columbus, secretary.

The directorate is composed of these men, together with the following: E. O. Eberhart, of Minneapolis, Minn.; Judge P. A Berry, of Columbus, and H. B. Brooks, of Chicago.

Spring Building Begins to Look Brighter

Prospects for spring building in central Ohio territory are growing better as the spring approaches. Architects and contractors are busy figuring on plans and specifications for new work, much of which will be dwellings and apartments. But on the other hand there are rather bright prospects for larger construction work. The F. & R. Lazarus Co. will start the erection of a half-million-dollar addition to its present store building some time in summer. Schools in Columbus to be built during the present season will be six, and possibly eight. Architects are now busy on sketches for four $1,000,000 high school buildings which will probably be built in 1922, but may be started the latter part of this year. There will be a lot of store room remodeling and changes, as well as the erection of a number of smaller business blocks. Taking it all in all the prospects are growing brighter and many material men, as well as brick manufacturers and agents, believe that the opening of the building season will be earlier than was at first anticipated.

Will Build Seven Kiln Addition

The Kusa Brick & Tile Co., of Henryetta, Okla., established about a year ago to test out the quality of shale in the Henryetta field, will, it is said, increase its original nine-kiln unit by seven beehive kilns for burning hollow tile and face brick. The brick made of this shale has attracted builders from out of that territory, and further additions to the plant are contemplated.

Moves Offices to New Location

Eastern Refractorics Co. announces the change of its general offices from Bellefonte, Pa., to Orviston, Pa.

New Pennsylvania Brick Company

The Wellsboro (Pa.) Shale Brick Co., has been formed under state laws by local and Ohio interests with capital of $20,000, to operate a brick manufacturing plant in this section. Emil E. Rose, Toledo, Ohio, is treasurer of the company.

Construction Beginning to Revive

A material strengthening of the market has been the outstanding feature of the brick and affiliated industries in Pittsburgh, Pa., during the past two weeks. This change is attributed to an increase in building generally and especially home building. During the first two days of March more building permits were issued by the city than in any previous similar period in years.

Contractors and dealers are receiving many inquiries which as a rule are being followed by orders which was not the case a short time ago. At that time numerous queries were received but few orders followed. One of the largest contracts to be let in the near future which is cited as a start toward a building boom is the contract for a new telephone exchange to be erected by the Bell Telephone Co. This building is to be three story structure of steel and brick and will cost approximately $340,000.

Reduces Price One-Fourth

From Dallas, Tex., comes the news that the Fraser Brick Co., of that city has reduced the price of its products by more than twenty-five per cent. since last fall. Decreased fuel cost, better labor conditions and a willingness to get on a rock bottom basis to assist in a revival of building, are ascribed as the reasons for the general reduction.

Hopes to be School Commissioner

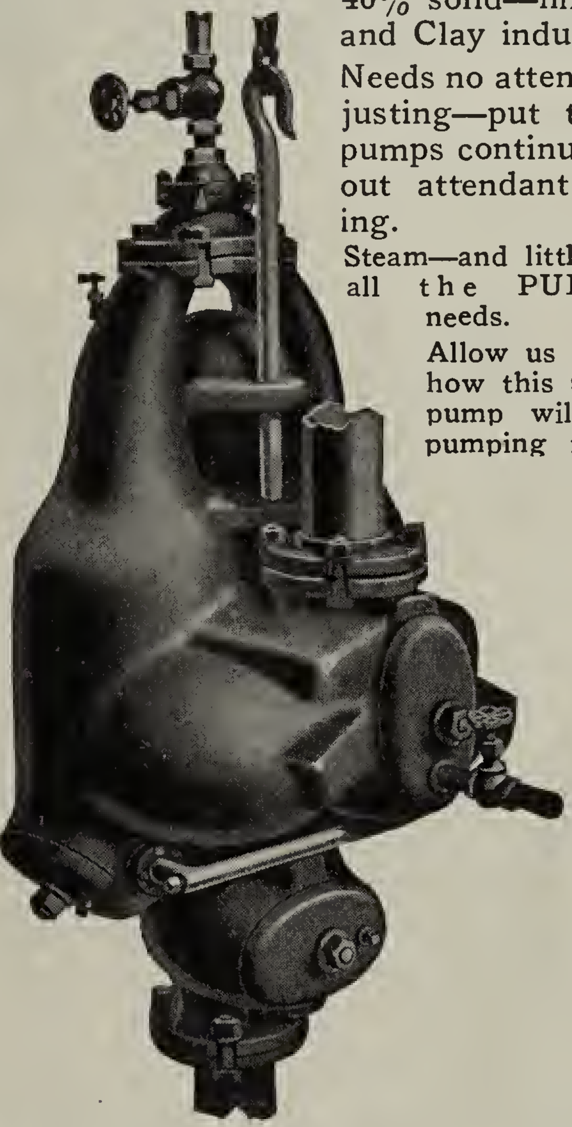
J. C. Flynn, sales manager for the Rutland (Vt.) Fire Clay Co., has announced his candidacy for school commissioner of that city. The election takes place early in March and Mr. Flynn's friends expect to put him in the office.

Organizes to Manufacture Refractories

The Refractory Products Co., Wilmot, Va., recently organized, is planning for the establishment of a local plant for the manufacture of high-grade refractory materials. The company will operate its own clay properties, located in this same section. It is capitalized at $900,000.

Virginia Man at Kentucky Convention

B. F. Kincaid, of the Kincaid Brick Co., Rosehill, Va., formerly the Roschill Brick Co., who attended the Kentucky con-



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There is no other pump in the class of the PULSOMETER — NEEDS NO LUBRICATION, because sliding parts and friction-producing mechanisms are eliminated.

Needs no foundation—it's efficient hung to anything, anywhere.

Handles any fluid up to 40% solid—fine for Brick and Clay industry.

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The K. B. Noble Co., 249 Pearl St....HARTFORD, CONN.
J. L. Welborn....HATTIESBURG, MISS.
H. A. Paine, 119 Main St........HOUSTON, TEX.
Woodward, Wight & Co., Ltd., ...NEW ORLEANS, LA.
Turner Supply Co.......MOBILE, ALA.
Miller Supply Co., ...HUNTINGTON, W. VA.
Harron, Rickard & McCone, 225 S. San Pedro St., ... LOS ANGELES, CALIF.
Edelen & Co., 235 Commercial Trust Bldg. .... PHILADELPHIA
Beckwith Machinery Co., 108 Parkway N. S..PITTSBURGH, PA.
F. H. Hopkins Company....MONTREAL
Hunter Machinery Co., 208 Wells St............MILWAUKEE
Wm. H. Ziegler Co., 423 S. Fifth St.......MINNEAPOLIS
Berow Machinery Co., 220 West 42nd St..NEW YORK CITY
Harron, Rickard & McCone, 139 Townsend St...SAN FRANCISCO
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That's what the engineer says whose boiler has been cleaned with

SCALINE

SCALINE not only cleans boilers but keeps them clean. It works its way through the cracks in the scale until it reaches the boiler metal, and, expanding, forces the scale away. Then it forms a thin film on the boiler surface that **lets heat through** but prevents the formation of new scale.

Government statistics show that the presence of only one-fiftieth inch of scale within a boiler means the waste of 100 pounds of coal in every ton burned. How much coal are YOU wasting?

Order a barrel of SCALINE today and reduce your coal bills. Money back if not satisfied.

SEALRITE

Plastic covering for kiln crowns and boiler settings. A money-saver, because it makes brick settings tight and keeps them so.

COATRITE

A coating for pipes, dryers, and dryer cars. Adds to the life of ALL equipment. Will not crack, peel, or blister.

KINGSBVRY
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CHICAGO ILL

vention, is a real type of the old Southern Gentleman. Mr. Kincaid for years has been farming a 6,000 acre plantation at Ewing, W. Va., but after the death of his son, who established the Rosehill Brick Co., at Rosehill, Va., he bought the plant at the trustee's sale, and has been operating it since.

Union Voluntarily Reduces Wages

According to a report bricklayer's Union No. 2 of Seattle, Wash., recently voted a voluntary reduction of ten per cent. in wages. The new scale of $9 per day is to remain in effect for one year under closed shop conditions. The union's announcement says the cut was made to assist in stabilizing the city's building industry.

Charter Permits Quarry to Make Brick

The Brookville Granite Quarries, Ltd., recently incorporated at Winnipeg, Man., by J. H. Broode, and G. F. Seale, with a capital of $200,000 has power to lease or purchase and operate brick plants in addition to a quarry.

Elects 1921 Officers

The Don Valley Brick Works, Ltd., Toronto, Can., has elected the following officers, who are also the six directors: President, Geo. Davies; vice-president, Adam Ballantyne; manager, J. H. Bowman; secretary-treasurer, H. Jawis; superintendent, Wm. Burgess and W. R. Davies.

Citadel Company Chooses New Officers

At a recent meeting of the directors of the Citadel Brick & Paving Block Co., Quebec., G. B. Ramsay, formerly vice-president, was elected president, succeeding the late Hon. S. R. Parent. Geo. Parent was elected vice-president; P. A. Galarneau was re-elected secretary-treasurer.

Incorporation of Bricklaying Company

A new departure of interest to brick manufacturers is the incorporation of a company at Toronto, Can., the Ontario Bricklaying Co., Ltd., with a capital of $40,000 to carry on the business of bricklaying, plastering, and so forth and to import, manufacture and deal in brick and other materials used by bricklayers.

Canadians at New York Convention

Mr. and Mrs. William Burgess, Toronto, Mr. and Mrs. Frank R. McCannell, Milton, Ont., and L. E. Shaw, Avonport, N. S., attended the National Brick Manufacturers' Association convention.

Joseph Russell and Ryland H. New, who in addition to being clay products manufacturers, are dog fanciers, took in the New York dog show and carried off some of the prizes.

New Montreal Clay Products Company

The Delson Brick Co., Ltd., Montreal, Can., has been incorporated with a capital of $100,000 to carry on the business of manufacturing brick, terra cotta, tile, drain tile, sewer pipe and all products of a like nature. Provisional directors are S. G. Dixon and R. E. Allan advocates; William Taylor, manager; A. McL. Murray, clerk and F. H. Robertson, accountant, all of Montreal.

St. John's Has Variety of Clay Plants

St. John's, Quebec, has several clay working plants. One is the Canadian Potteries, Ltd., making sanitary ware. R. T. Crane is president, E. C. Townsend, vice-president, and H. F. Potter, secretary. The company employs about one hundred hands.

Sanitary ware is also manufactured by the Dominion Sanitary Pottery, Ltd., of which Wesley Knight is president and manager. Employment is given to about twenty hands.

The Standard Clay Products, Ltd., which also has a factory at New Glasgow, N. S., has a big plant at St. Johns, where it employs on the average about 125 men. This concern manufactures salt glazed vitrified sewer pipe and connections, amcosegmental sewer blocks, culvert pipes, inverts, flue linings, stove linings, fire brick, locomotive blocks, gulley traps, range brick, hollow vitrified building tile, cupola linings, wall coping and all kinds of fire clay goods. The tonnage at this factory which covers some 45,000 square feet of floor space, amounted to 16,441 last year. W. C. Trotter, is president and general manager, Lt. Col. Herbert Nolson, first vice-president, T. McAreity Stewart, second vice-president, G. S. Trotter, assistant general manager, A. G. Winter, secretary-treasurer, and H. Blackader, assistant secretary.

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A. C. S. Meeting Pictures Industry Development

(*Continued from page* 383.)

is the news of the formation of a new section of the American Ceramic Society, which is known as the heavy clay products division. Ross C. Purdy was elected chairman of this division and C. Forest Tefft, temporary secretary. A more complete account of the formation of this division is given in another section of this issue.

On Wednesday morning a session devoted to kilns and the problems of burning was held. At this session Frank H. Riddle, of the Jeffrey DeWitt Co., Detroit, Mich., manufacturers of electrical porcelain, described the use of the Dressler tunnel kiln for burning ware to the extremely high temperature of Cone 18, which is equivalent to 2,714 deg. F. The kiln is 300 feet long and the arch in a forty foot section at the hot zone built of silica brick. The muffles for the hot zone are, of course, constructed of carborundum. The problem of finding a suitable mortar which would not fuse and run out was a difficult one, but outside of this fact the kiln operated remarkably well at this unprecedented high temperature. It developed during the construction of this kiln that the manufacturers of refractories do not know what their products are good for, and Mr. Riddle advocated that the manufacturers find out more about their product, so they can recommend them for particular uses.

TUNNEL KILNS FOR BURNING WHITEWARE

Carl B. Harrop described the installation of two tunnel kilns of his own design at the Mt. Clemens (Mich.) Pottery Co. These kilns are used for burning whiteware, and have five hand stoked furnaces on each side. The bisque kiln is 323 feet long, in which the ware is fired to a temperature of Cone 10, equivalent to 2,426 deg. F., while the glost kiln is 273 feet long and is fired to a temperature of Cone 5, which is 2,246 deg. F.

Other papers on the subject of kilns and burners were also presented.

At the closing session of the convention Dr. Orton advanced a resolution paying a high tribute to Ernest Mayer, once president of the American Ceramic Society, who died recently. Mr. Mayer, who was a member of the firm of the Mayer China Co., Beaver Falls, Pa., always sought for the advancement of the knowledge of the ceramic art. He was a counselor of the potters of this country, and was glad to give a free interchange of knowledge of anything he knew about the industry. A committee of five, composed of Col. Ed. Orton, Jr., F. W. Walker, A. V. Bleininger, B. E. Salisbury and Homer F. Staley was appointed to arrange for a suitable memorial to Ernest Mayer. At this same session a resolution was unanimously adopted for the preparation

Here's a Belt Joint That I'll Say H-O-L-D-S!

When I say "It H-O-L-D-S" I mean exactly what I say—H-O-L-D-S.

Why, man, this Crescent belt joint will last as long as the belt itself. It's got a won't-let-go grip on that belt that simply can't be beaten. No matter how long and continuously it remains in service, I've got the satisfaction of KNOWING that joint is going to stay put.

There's no more running around here re-making belt joints over and over again since we started using

CRESCENT
Make Good Belts Give Better Service
BELT FASTENERS

No more mechanics standing around idle waiting for me to come and rejoin their belts. The management is strong for Crescents because they eliminate interruptions and insure continuous production. The fellows on piecework are strong for Crescents because they put more money into their pockets each week. And I'M strong for Crescents because they save me a lot of work and worry and give me more time to better my own job.

Crescents save time and work all along the line—they also save the BELT—because no part of the belting is punched or cut away. They distribute the strain evenly and equally across the entire width of the belt and its full strength is maintained and actually reinforced at the joint.

I can make a joint with Crescent Belt Fasteners in a fraction of the time it used to take for "lacing"—but the thing about the Crescent Belt Fasteners that makes the big hit with me is that it's on to STAY.

If you, too, want to make belt joints that H-O-L-D write for new Booklet W, on Increased Belting Efficiency.

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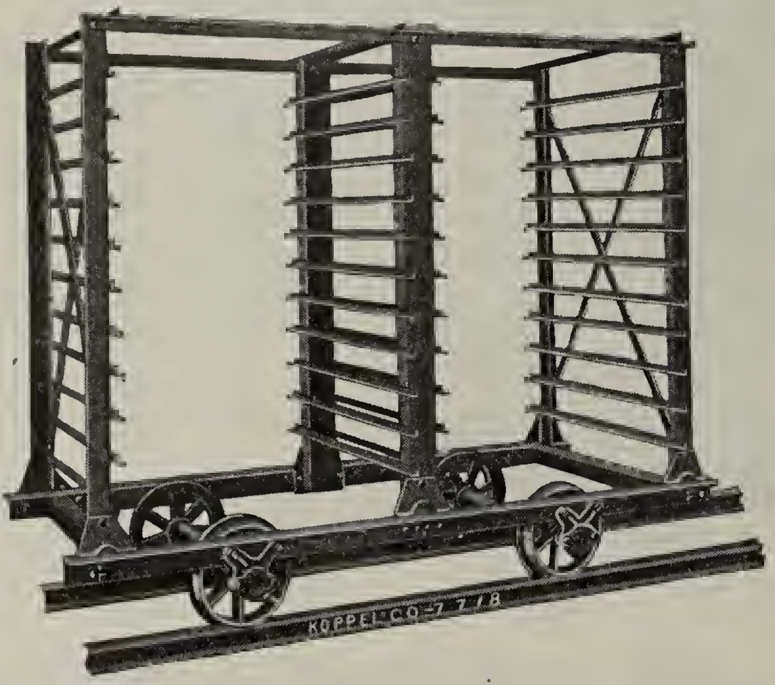

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of a memorial engrossed on parchment, showing appreciation of the work of Col. Ed. Orton, who stands as the father of the ceramic industries of this country. Stanley Burt, F. W. Walker and W. D. Gates were appointed on the committee to carry out this work.

WILL TRY TO REDUCE LEAD POISONING

B. T. Sweely introduced a resolution recommended by the Chicago Section of the American Ceramic Society asking for the cooperation of the American Ceramic Society with lead manufacturers in the investigation of methods of reducing lead poisoning among employes of ceramic plants using this material. A committee on cooperation was charged to handle this matter.

A summer meeting committee, composed of I. A. Sproat, Thomas Sant, A. V. Bleininger and J. W. Saunders, was appointed to arrange for the 1921 meeting, which will be held in the Ohio Valley district.

A committee composed of A. V. Bleininger, E. P. Poste and R. H. Minton, was appointed to study the question of employing a full time secretary, such as has been frequently discussed on the floor of the American Ceramic Society meetings in recent years.

A. S. Watts, of the Rules Committee, explained a new method of election of officers for the Society, whereby the nominating committee would consist of the last two presidents and the chairman of each section and division. Other nominating committees might be self constituted, providing they are composed of ten members, five of whom must be active.

NEW OFFICERS OF SOCIETY

R. H. Minton departed from the usual procedure of installing the officers, and presented them in a unique form. The new president for the coming year is F. K. Pence, ceramic engineer and production manager of the American Encaustic Tiling Co., Zanesville, Ohio. Mr. Pence is well known as a leader on the committee that so admirably conducted the 1918 summer meeting of the American Ceramic Society. Mr. Pence stated that he was impressed with the responsibilities of the new phase in the development of the Society, but felt that the dangers of the tremendous growth of the American Ceramic Society were offset by the spirit of love and cooperation which existed among its members.

The new vice-president is none other than F. B. Ortman, until recently with the Northwestern Terra Cotta Co., but now with the Tropico Potteries, Inc., of Los Angeles, Cal., for which concern he is vice-president and general manager. Mr. Ortman was chairman of the committee which conducted a very successful summer meeting in Chicago last year.

A new member of the Board of Trustees is R. M. Howe, of the Mellon Institute of Pittsburgh. Mr. Howe holds the Refractories Manufacturers' Association's senior fellowship at the above mentioned Mellon Institute, and is one of the progressive young men in the American Ceramic Society.

FINE SOCIAL PROGRAM

The convention program of the American Ceramic Society did not consist of all business and technical papers. Two social events were intermingled with the strenuous four day program.

On Monday evening, the usual section "Q" and smoker was held in the ball room of the Hotel Deshler. A clever nine-year-old dancer amazed the audience with her skillful dancing. A magician also performed and delighted the audience with his unusual stunts. Following the entertainment the evening was given over to dancing.

On Wednesday evening was held the annual banquet at which the large attendance of 256 persons enjoyed the splendid food and interesting speeches. On the program were Col. Ed. Orton, toastmaster, Forrest K. Pence, Zanesville, Ohio, Dr. E. W. Washburn, Urbana, Ill., R. C. Burton, Zanesville, Ohio, and W. D. Gates, Chicago, Ill.

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The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

SUPREME COURT DECISION AIDS FARMERS

THOSE MANUFACTURERS of clay ware who depend a great deal on the farm trade as an outlet for their product will rejoice in the recent decision rendered by the Supreme Court with regard to the Farm Loan Bank bill. The outlook for business in the agricultural trade has been quite poor. This was due largely to the greatly decreased buying power of the farmers who were hit quite hard when they were compelled to market their produce at low returns in face of the high labor costs they were required to pay in gathering their crops.

The decision in favor of the Farm Loan banks will open up a very broad field for the assistance of the agricultural interests of the whole country and will undoubtedly be productive of vast benefit to all business interests of the country. Clay products manufacturers especially will herald this as good news. They now know where the money will be forthcoming for the farmer to purchase the enormous quantities of drain tile, silo and farm building tile and brick that is needed everywhere.

* * *

GREAT SAVING POSSIBLE IN JUDICIOUS PURCHASE OF COAL

COAL is so closely and prodigiously associated with clay products manufacture that it is always necessary to give it constant attention. As purchasers of tremendous quantities of this material, it should be the purpose of every clay products manufacturer to buy his coal with considerable thought and care.

An investigation of coal consumption by clay plants brought out the fact that of 138 representative factories, the *average* annual coal consumption per plant was 9,022 tons. Assuming that this coal was purchased at $3.50 per ton at the mine, it will be seen that the average plant pays out something like $31,500 annually for its coal needs.

It will be seen that if coal is purchased judiciously so as to secure an advantageous price or a better grade of fuel, making possible a saving of five per cent. there is made possible an economy that would amount to $1,575 on the average plant.

It is not at all unlikely that a good number of plants could, with a little effort, make this saving without even considering the economy that is possible thru the greater efficiency in using the coal. On a larger plant using twenty thousand tons of coal annually, and there are hundreds of clay plants consuming this quantity of fuel, the saving thru a five per cent. reduction in cost or quality would amount to $3,500 a year,—a considerable item.

Coal operators by reason of greater competition, it has been learned, are now striving to produce better grades of coal. The war quality, in which was included a large quantity of slate, rock, iron pyrite, clay and what not, is ending its inning. Refining equipment is being installed, and sorting is being carried on to a greater extent than for the past several years.

The clay manufacturer will do well to watch carefully the quality of the coal he is getting, and it would not be amiss at this time to experiment with different coal supplying concerns, to determine who is giving the best quality. It is then paramount to insist on the same good quality on all coal delivered on any contract that may be drawn.

* * *

CAN COAL CONTRACTS BE MADE ADVANTAGEOUSLY NOW?

THIS SPRING finds conditions in the clay industry pretty much the same as those existing just two years ago. You will remember that in the spring of 1919 business was stagnant just as it is now and for similar reasons. The public would not buy and it was waiting for lower prices. Instead of prices reaching a lower level they soon went up.

The situation in the clay products industry was also very much similar to conditions today. There was no construction going on. Also in the spring of 1919 the production of coal in the United States was approximately the same as it is today. The Fall of that year, however, saw the beginning of the long period of coal shortage which lasted until but a few months ago, and it will be remembered for a long time to come because of the many hardships endured by all manufacturing plants.

Those factories that were obliged to purchase their fuel on the open market were required to pay outrageous prices for it, and even some plants that had contracts with coal operators were not supplied with their full requirements. However, as was borne out in a questionnaire filled out by clay manufacturers, those plants that had contracts with reliable coal operators were given satisfactory service and in nearly all cases without an increase in price.

We do not mean to infer that because of the similarity of conditions now with those in the spring of 1919, that it follows that there will be any stampede in the coal market. Business depression in general lines has reflected its magnitude in the greatly reduced coal consumption of the past few months, and the situation has been of long enough duration to deflate any excessive price of coal that may have prevailed. Surely coal can react no further and deflation has been consummated.

All the elements except one that go to make up the cost of coal production have been readjusted during the past few months to conform to the new conditions now prevailing. These readjustments have already been reflected in the current prices of coal. The one factor that has not as yet been modified is labor wage scales. The present scale of wages for coal miners is under contract to continue until April 1, 1922. Union labor controls about three-fourths of the production of bituminous coal in the United States.

Reports from various sections of the country seem to indicate that there is no hope for a reduction in miners' wage rates until 1922. Hence, with business as bad as it can be, with the coal industry stagnant, and with the miners' wages at a standstill until 1922, we predict that there is no likelihood of coal prices being any lower than they can be found during the next month or two.

Altho coal consumption during the summer months is always at a low ebb, we do not believe that the demand this summer will be any lower than it is now under present business and weather conditions. On the other hand, there is every reason to believe that construction activity will increase and business better itself, but whether or not this will bring about an increase in present coal prices is problematical.

Taking all things into consideration, it seems safe for a clay plant operator to contract for his coal within the next month or two, feeling that he has taken advantage of the lowest price possible and guaranteed against any increases that may come later on. As pointed out in another editorial, a five per cent. saving is one not to be scoffed at.

* * *

MUST NOT JEOPARDIZE SOURCE OF TRAINED CERAMISTS

IF IT WERE not that the welfare and progress of the University of Illinois was of great interest to the entire clay industry as well as to the citizens of the State of Illinois, we would hardly deem it proper to give the subject of this item any space in this journal. The University of Illinois, because of its ceramic department is of great importance to the whole country. There are only five schools in the entire United States where ceramics are included in the curriculum and the "Illini" is one of them.

The graduates of the ceramic course of this institution are in demand by manufacturers from every state in the Union. The magnitude of the demand is illustrated by the fact that there were fifteen positions offered for every man that graduated last term.

Each year trained men are being turned out that are playing an important part in the development of the industry. They are essential.

There is some danger that this source of supply of ceramic men may be shut off. The University of Illinois is in dire need at the present time for an appropriation adequate to take care of its need for operation and maintenance. Altho the student enrollment has increased 100 per cent. since 1912 and the purchasing power of the dollar diminished greatly, the state legislature has failed to grant an appropriation in any way commensurate with the needs of the university.

The instruction staff of the department of ceramics is struggling to live on salaries that were only fairly adequate in 1913. Attractive offers have been made to some of the members to induce them to enter industry and there is danger that if proper readjustments are not made that the staff of the ceramic department will be depleted. Because of the great shortage of trained men in ceramics, it would be extremely difficult to fill any vacancies that might occur in that department.

Every Illinois clay products manufacturer and any others, who might have influence should immediately urge the Illinois State Legislature to pass the budget that has just been presented and which is very conversative for the maintenance and operation of the University. Furthermore, it is also essential that the University give proper attention to the needs of the ceramic department.

* * *

UNFAIR COMPARISON OF PRICE REDUCTION

IT IS UNFAIR and greatly to the discredit of lumber producers and wholesalers of this country, that they have been unpardonable offenders in distorting facts on prices of building items. The daily press and various magazines have been filled with articles proclaiming what were asserted to be extraordinary price cuts in lumber quotations. Furthermore, it has been charged that makers of other materials had failed to make similar reductions and were retarding construction.

Such propaganda cannot help but react against the lumber man in the end. In the meantime the unfair comparisons that have been made have injured the construction industry on the whole. It is true that lumber has come down more than other building materials, but it still is as proportionately high as other building commodities.

Herman L. Matz has put it impressively when he said, "A man can jump farther from the roof of a ten-story building than he can from the main floor." If lumber had not made such unprecedented increases it could never have made the recent cuts. However, even with all the wonderful and sacrificing (?) price cuts made, there is still a net increase of 126 per cent. in the cost of the most common lumber items used in house construction.

Truth in advertising pays in the long run. The clay products manufacturer can take the very facts presented by the lumber man and with a little additional price history make them react to the disadvantage of lumber.

* * *

WHY PURCHASE BRICK OF FOREIGN COUNTRIES?

ALTHO it has not been the custom of Americans to purchase brick from foreign countries, there have been a number of instances where this has been done. Notably, wealthy men who have built mansions and country homes have been the chief offenders. Just why an American should purchase foreign brick is hard to comprehend.

A recent report has stated that Denmark, which has a superabundance of brick on hand wishes to exchange them for American coal. These brick are to be shipped F. o. b. New York City for $22.60. Approximately, eighty million brick may be sent, it is said.

There is positively no cause for any American purchasing brick from any other country. In the first place, American brick are unsurpassable as to quality. Secondly, American clays are of very wide variety so that any color or texture is possible and there are no grades of foreign brick that cannot be reproduced in this country. In the third place, American brick are reasonable in price.

For the country permitting the entrance of eighty million brick from a foreign country at this time after having curtailed brick production here during the war period, would be unjust. The need for patronizing home industry is plain. Especially does the nation owe it to the brick manufacturers to patronize them. The importation of foreign brick should by all means be discouraged.

* * *

AN ENCOURAGING ANNOUNCEMENT

MUCH SIGNIFICANCE can be attached to the announcement made by S. W. Straus & Co., relative to their willingness to loan money at six per cent. for building purposes. This concern, which has offices in all large cities in the United States, is widely known as a very reputable and conservative business concern, hence what is said by them carries much weight.

They have advertised widely that it is in their opinion good judgment to build now. They urge the resumption of all forms of building construction on a broad scale and make no reservation whatever.

These statements they issue on the basis of facts obtained in a nation wide survey which they have made and which reveals the shortage of at least one million homes, and reduced stocks in the hands of manufacturers and dealers in building supplies that presage exhaustion and high prices if anything like real activity gets under way.

With the great demand for construction admitted, money being available and with such a reliable concern as the S. W. Straus & Co. advocating going ahead, the situation is looking brighter every day to the clay manufacturer.

TELLS TRUTH ABOUT PRICES

Misleading and Unfair Price Comparisons Between Different Building Materials Have Flooded the Country During the Past Three Months

AMONG THE MOST inexcusable offenders in distorting price facts have been many of the largest lumber producers and wholesalers of the country. They have filled the daily press and even captured space in national weeklies to proclaim what they asserted was the extraordinary price cuts in lumber quotations, to which they added the charge that the makers of other building materials had failed in making similar reductions.

Everywhere the charge has been made and repeated by those who did not know the facts, that the revival of construction was being prevented by the refusal of masons' material manufacturers to properly mark down their schedules from war-time figures.

WHAT ARE THE FACTS?

F. E. Davidson, president of the Illinois Society of Architects and one of the national leaders in that profession gathered actual comparative figures, secured for his Association Bulletin, which show:

(1) That the present prices of both lumber and heavier building materials are not exorbitant altho they average close to 100% increase over the quotations of 1914.

(2) But, that instead of a radical decrease in lumber prices there is a net INCREASE of 126% in the cost of the most common lumber items used in house construction.

(3) That common brick, portland cement, lime, sand, crushed stone and gravel show an average increase of but 96% over 1914.

(4) That the explanation of the alleged great decrease in lumber costs is simply that lumber prices in 1919 and 1920 soared "out of sight" beyond other materials, and have now returned nearly to normal.

(5) That increased cost of labor, transportation, coal, mortgages, etc. amply prove that present material prices are not unreasonable or likely to greatly decrease in the near future.

BUILDING MATERIAL COSTS

"There has been so much stated and written about building material costs and the percentage of increase over pre-war prices and the effect of such increases on the resumption of buildings that it appears that a statement of actual figures might be studied with profit," says the report.

"Lumber manufacturers and dealers have called attention to the fact that the present retail prices on timber and lumber are about 50 per cent. below the peak of 1920, but they have neglected and failed to state what is the present level of retail prices as compared to 1914. The following actual figures will tell the story.

TWO STORY STANDARD MILL FACTORY NEAR 22nd AND WESTERN AVE., CHICAGO

	Cost in 1914	Price Quoted March 9, 1921	Percent of Increase
23 pcs. 14x14—14 No. 1 Y. P. S4S & Bored	$27.00	$66.00	144%
204 pcs. 10x18—22 No. 1 Y. P. S4S	32.00	62.00	94%
12 pcs. 8x16—16 No. 1 Y. P. S4S	26.00	60.00	130%
2 pcs. 8x16—26 ditto	29.00	60.00	107%
426 pcs. 6x14—16 ditto	25.00	58.00	132%
224 pcs. 6x14—14 ditto	25.00	58.00	132%
14 pcs. 6x14—18 ditto	25.00	58.00	132%
160 pcs. 2x10—16 No. 1 Y. P. SISIE	21.50	37.00	72%
6,000 ft. 1x6 D&M	21.50	33.00	60%
66,000 ft. 2x6 D&M No. 2 Y. P. D&M	16.50	37.00	124%
233,000 ft. 3x6 No. 1 Y. P. D&M	19.00	38.00	100%
23 pcs. 12x12—14 No. 1 Y. P. S4S & Bored	25.00	64.00	151%
68 pcs. 10x18—22 No. 1 Y. P. S4S	32.00	62.00	94%
28 pcs. 6x16—16 ditto	26.00	60.00	130%
46 pcs. 10x10—14 No. 1 Y. P. S4S & Bored	24.50	60.00	145%
68 pcs. 8x16—24 No. 1 Y. P. S4S	28.00	60.00	114%
63,000 ft. 2¼" Fctg. Maple Flrg	24.00 M	58.00	133%
		Average	117.3%

ONE STORY FACTORY, ORDINARY CONSTRUCTION, NEAR CARROLL AND WESTERN AVE., CHICAGO

	Cost in 1914	Price Quoted March 9, 1921	Percent of Increase
12 pcs. 10x10—14 No. 1 Y. P. S4S	$26.00	$52.00	+100%
20 pcs. 8x16—16 No. 1 Y. P. S4S	29.00	30.00	+107%
8 pcs. 8x16—18 ditto	29.00	60.00	+107%
250 pcs. 3x14—20 ditto	29.00	52.00	+ 79%
9,000 ft. ⅞ No. 2 Hemlock 1x6	21.00	33.00	+105%
9,000 ft. ⅞x2¼" Fctg. Maple	24.50	58.00	+133%
10 pcs. 3x14—18 No. 1 Y. P. S4S	29.00	52.00	+ 79%
12 pcs. 8x 8—14 ditto	25.00	49.00	+ 96%
14 pcs. 8x16—18 ditto	29.00	60.00	+107%
250 pcs. 2x12—20 No. 1 Y. P. SISIE	25.00	48.00	+ 92%
		Percent of Increase	+100.5%

SIX TWO-STORY FLAT BUILDINGS, ROGERS PARK, CHICAGO

	Cost in 1914	Price Quoted March 9, 1921	Percent of Increase
180 pcs. 2x6—20 No. 2 Y. P. SISIE	$15.00	$42.00	+180%
360 pcs. 2x8—20 ditto	16.50	42.00	+173%
400 pcs. 2x4—14 ditto	15.00	35.00	+133%
540 pcs. 2x4—22 ditto	18.50	43.00	+132%
1,450 pcs. 2x4— 9 ditto	15.00	35.00	+133%
22,200 ft. 1x8 No. 2 Shiplap Y. P.	16.00	36.00	+125%
18,000 ft. 6" No. 1 Beveled Siding	13.00	40.00	+207%
100 pcs. 2x4—16 No. 2 Y. P. SISIE	15.00	35.00	+133%
3,000 ft. 1x10 No. 2 Y. P. S2S	16.00	36.00	+125%
27 pcs. 6x8—16 No. 1 Y. P. S4S	18.50	48.00	+160%
12 pcs. 6x8—20 ditto	18.50	48.00	+160%
9 pcs. 6x6—16 ditto	18.50	48.00	+160%
18 pcs. 6x6—10 ditto	18.50	48.00	+160%
18 pcs. 6x6—16 ditto	18.50	48.00	+160%
3,500 ft. 1x6—16 DMB & CB No. 1 Partition	19.00	50.00	+163%
84 pcs. 2x12—12 No. 1 Y. P. S4S	19.00	43.00	+126%
39 pcs. 2x12—14 ditto	19.00	43.00	+126%
		Average	+150.4%

"In comparison with these figures the following table of the percentage of increase in the cost of concrete and masonry materials is interesting.

INCREASE IN CONCRETE AND MASONRY MATERIALS

	1914	March 10, 1921	Percentage of Increase
Common Brick	$7.00	$16.00	+128%
Portland Cement	1.40	2.55	+ 82%
Lime	.70	1.60	+128%
Bank Sand	1.35	3.00	+122%
Torpedo Sand	1.75	3.00	+ 71%
Crushed Stone	1.75	3.00	+ 71%
Crushed Gravel	1.75	3.00	+ 71%
		Average	+ 96%

"It will be noted that the average increase in the cost of masonry and concrete materials over 1914 prices is 96 per cent. This must be compared to the average increase in the cost of lumber of 126.0 per cent.

"In considering the question, 'Is the present retail price of basic building materials fair?' the average man is very apt to overlook the effect on cost of the increases granted to labor, the increased cost of transportation, the increased cost of coal and other fuel, the increased cost of money, etc. It is indeed unlikely that any material reduction may be made or will be made in the selling price of any of the basic building materials until labor, transportation and fuel costs are reduced.

"There is no more reason why the manufacturers and dealers in building materials should sell their products at a loss than for the dealer in any other line of commodities to sell his materials at less than cost. Why pick on the material dealer only? Has any one suggested that the banks reduce their interest rates, and when it is remembered that the net income of all of the national banks in the United States for 1920 equalled 24 per cent. on their total capital stock and if we assume, as we may with safety, that the profits of the trust companies and state banks were equally as large, why not suggest to the banking interests that they be content with the same net return on their investments that the brick manufacturer is, or the dealer in Portland Cement or in gravel and sand? Why not in fact tell the bankers that they are profiteers and should be willing now to loan all the money needed for building without either commission charges or interest? Why not further suggest that the real estate brokers transact their business without profit? Why not tell the house furnishing dealers that they must do business at cost? It can be done with as equally good reasons as to expect material dealers to sell their products below cost.

"It is of course obvious that the lumber interests did even better in the matter of profits than the bankers, as if lumber is now being sold at cost after being reduced 50 per cent., it shows that they exacted approximately 50 per cent. profit, which is about twice that exacted by the banking interests.

"Is it not time that there was some sane thinking and plain speaking as to what is a fair and reasonable selling price for the basic building materials, and why should not the manufacturers and dealers in building materials put their cards on the table and show the building public what their materials actually cost? The American public is fair minded and is easily convinced when shown the facts."

* * *

Coal Used by Clay Plants

Some interesting statistics were revealed in a questionnaire that was filled out by a large number of clay plants representative of the central district of the United States. Out of 138 who replied as to their annual coal consumption, 23 used less than 1,000 tons; 43 between 1,000 and 5,000 tons; 29 between 5,000 and 10,000; 10 between 10,000 and 15,000; 19 between 15,000 and 25,000, and 14 used over 25,000 tons of coal annually. The total annual tonnage used by these 138 factories amounts to approximately 1,245,000 tons. This means that the average annual tonnage consumed by a clay plant amounts to approximately 9,022 tons, or about a car load a day for each day that the average plant operates.

Of the kind of fuel purchased, 39 use mine run; 6, screenings; 27, lump; 17, egg; 20, nut, and 8, gas.

It was also brought out in this questionnaire that almost all of those plants that had contracted with large reliable concerns for their fuel supply were not inconvenienced during the coal shortage of the past year. On the other hand, those who purchased on the open market and some who purchased of small dealers, reported considerable difficulty in obtaining their coal. One of the clay plant operators reported that he purchased his fuel of "various highway men."

* * *

HOLLOW TILE NATIONAL PLANS BIG MEETING

THE LAST of the major clay products associations to meet this year will be the Hollow Building Tile Association, which will convene the last two days of this month. The Board of Directors' meeting will take place on March 29, preceding by one day the third annual meeting, which will be on March 30 and 31 at the Hotel La Salle, Chicago.

The Hollow Building Tile Association has increased almost one hundred per cent. in membership and now boast of close to a hundred members. It is fully expected that every manufacturer will be in attendance at the forthcoming meeting. A well balanced and meritable program has been arranged for and will include Hon. E. T. Meredith, ex-secretary of agriculture. He will address the association on the needs of better construction in rural communities. The manufacturers will have a splendid opportunity to hear some good arguments that they can use in sales talks and which will carry much weight because of the fact, that these points are coming from such a prominent national figure.

A. V. BLEININGER TO SPEAK

A. V. Bleininger, a leader in the progress of technical development of the clay working industry in the country, will grace the program and will speak on scientific problems relating to plant operation.

The Corn Exchange National Bank of Chicago has recently been running a campaign in newspapers, advertising their home savings plan. "Save for a Home of Your Own" is the caption that the above bank has been using to attract prospective home owners to its plan. John W. Rubecamp, of the Corn Exchange National Bank, will explain to the convention the details of the bank's plan. The bank is using the Hollow Building Tile Association's plan service in aiding its customers and in promoting its plan.

A two-reel movie showing the manufacture and use of hollow tile and completed buildings will be exhibited at the convention. A little get-together smoker has been arranged for the night of the thirtieth, and all manufacturers are urged to reserve that evening for this occasion.

The present officers of the Hollow Building Tile Association are: H. M. Keasbey, president; James T. Howington, vice-president, and E. R. Sturtevant, secretary.

* * *

Supply of Building Materials Is Insufficient

Allen E. Beals, in a talk before the Long Island Real Estate Exchange on the building material situation, said that the building material market is undersupplied in all but four items, hollow tile, linseed oil, certain grades of lumber and glass.

There is cement on hand for only ten days' supply. 420,000,000 brick constitutes the entire country's stock at present. In a normal year the Hudson River district would have this many on hand for the New York market, today there are no stocks in New York dealer's hands and there are scarcely 250,000,000 Hudson River Brick available for this spring's requirements.

"It is safe to assume that prices will move up again, probably in April or May," Mr. Beals said. "Now, if demand should begin to tax the manufacturers' capacity and he should be unable to make scheduled deliveries and still take care of the influx of new business, premium conditions like those of 1920 will develop. In such an event it is not unlikely that the building public will register a protest against an upward swerve in the building material price chart, and if the public again resorts to a buyer's strike the building industry can look only to the doubtful expediency of government intervention to get it started again."

ILLINOIS CLAY MEN PLEDGE AID *to* U. *of* I.

Instructive Papers on Manufacturing Subjects Characterizes Annual Meeting of Illinois Clay Manufacturers Association

ANOTHER MILESTONE in the history of the Illinois Clay Manufacturers' Association was passed at the convention at Hotel LaSalle, Chicago, March 8, 1921.

A representative crowd of brick manufacturers was present and all important current questions were discussed.

President Harvey C. Adams opened the meeting with a few introductory remarks. He told in a forceful way the need of preserving the ceramic department at the University of Illinois. Altho small, with but few students the need for this department is nevertheless great as is demonstrated by the fact that last year there were fifteen positions to every student in the course. Unless some effort is made to preserve the ceramic department the University may find it necessary on account of financial straits to abandon it.

TALK ON ORIGIN OF CERAMIC FUELS

"The Origin and Classification of Ceramic Fuels" was the title of a highly interesting talk by J. F. Kohout of the Commercial Engineering and Testing Co. Chicago, Ill. At the very beginning of his talk Mr. Kohout made the assertion that a use can be found for almost any kind of fuel in some phase of the ceramic industry. His explanation of the manner in which coal and oil is formed proved to be fascinating.

Oil, Mr. Kohout said, has the most heat value of any fuel, but its excessive cost when compared with coal makes its use prohibitive in many cases. Often coal at $20 per ton would still be cheaper to use than oil. The semi-bituminous coal from the East has the highest heat value of any coal. In Illinois the long flame coal is best, but some of the coal contains sulphur. One and one-half to two barrels of oil will equal a ton of Illinois coal in efficiency altho many people use two to three barrels of oil as the equivalent of a ton of coal. For best results the oil should be heated before use as the warm oil flows more readily than cold and is broken up more easily by the atomizer spray.

Mr. Kohout mentioned that a patent has recently been issued for a new type of gas producer which is producing from 25,000 to 30,000 cubic feet of gas per ton of coal. The by-products are collected and can be sold readily. The efficiency of gas from a producer is only about one-fifth that of natural gas but it is often feasible and practicable for a plant to operate on gas producers.

POWDERED COAL HAS HIGH HEAT VALUE

Powdered coal, Mr. Kohout says, is the form in which the greatest efficiency is obtained from bituminous fuel. There are however, several objections to its use in the ordinary clay plant. The initial expense of installing machinery to grind and powder the coal to a 200 mesh fineness is very great. The use of coal in this form is almost analogous to the burning of oil; it is used in much the same way thru burners, and the length and intensity of the flame is not hard to control.

The chief objection to the use of powdered coal in any but a muffled kiln is the depositing of a fine ash which of course tends to give the ware an unsightly appearance. Then, too, powdered coal can not be stored because of the extreme danger of spontaneous combustion.

Another talk of a more or less technical nature on "The Tunnel Kiln" was given by A. W. Buckingham of the Russell Engineering Co., St. Louis, Mo. Clay manufacturers are becoming more and more interested in the developments of the tunnel kiln. Some of the points of advantage of a tunnel kiln over a periodic are: Gives opportunity for better plant layout; effects a great saving in labor; lowers production costs; gives better and more uniform heat; makes for uniformity in the ware; reduces burning time to a great extent; turns out higher percentage of perfect ware.

Working conditions for the laborers are better on the plant with a tunnel kiln. At no time is it necessary for the workman to enter a kiln full of hot gases.

TUNNEL KILNS BURN ANY KIND OF WARE

The twin tunnel kiln has more advantages than the kiln with two single units, as heat from the cooling brick on the cars can be utilized in preheating the brick before they enter the firing zone. It is possible to burn any kind of ware in a tunnel kiln. So far this type of kiln has not been used to any great extent for the burning of brick but there are a few now in use for this purpose and they are proving entirely satisfactory.

Immediately following this talk by Mr. Buckingham, Prof. R. K. Hursh of the Department of Ceramic Engineering, University of Illinois, gave some interesting points in connection with the tunnel kiln. To be applicable for use in the manufacture of brick and tile and other heavy clay products the kiln must have a considerable capacity and output in order to effect a real saving in fuel and production costs.

The upkeep of a tunnel kiln is considerably less than that of any type of periodic kiln. One of the reasons for this is the uniform temperature which is maintained in a tunnel kiln which makes is unnecessary for the structure to go thru the racking and destroying effects of expansion and contraction. The real factor of expense in a tunnel kiln is that of the cars which go thru the intense burning heat. In many cases the cars are more or less poorly constructed and as a result are made useless very rapidly. All kilns should be substantially and well constructed to secure greater efficiency and longer life.

CONVEYOR SYSTEM ON THE BRICK PLANT

A most interesting talk, also relating to clay plant operation, was given by W. A. Buell of the Barber-Greene Conveyor Co., Aurora, Ill. The subject of the talk was the "Application of Portable Loading and Conveying Equipment to Clay Products Manufacturing."

Mr. Buell said that conveyor system as applicable to brick plants has not been fully developed as yet but that there is no reason why a machine can not be designed to take the brick from the machine right into the dryer. There are many cases where brick are being set in the kiln with the aid of conveyors, and an Iowa firm uses the conveyor to set drain tile. The Barber-Greene type of portable conveyor has an electric motor mounted in the frame.

Conveyors, Mr. Buell said, can be used for either drawing or setting. In the former operation the brick can be loaded from the kiln directly into the cars. An immense saving in labor is claimed for the conveyor system over the hand labor method. At the plant of the Morey Clay Products Co., fifteen men load box cars of 25,000 brick in two and one-half hours.

RALPH P. STODDARD SPEAKS

Striking a note of vital interest to the brick manufacturers, Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association, spoke on "Expanding the Brick Market." That is one of the most vital problems to solve at the present time, the question of finding a bigger market for brick. Most clay men today stand with their face to the clay pit and their back to the market, and it is absolutely necessary that more attention be paid to the selling end.

To help accomplish this brick manufacturers should strive to get a better understanding with their competitors. Frequent meetings go a long way to accomplish this end. A striking example of the possibilities in intensive work to find new markets is the history of Portland cement. From 25,000,000 barrels in 1900 this commodity increased to 600,000,000 in 1920 thru finding new markets and bettering the product.

There was a time when certain parts even of a frame building were conceded to brick without question, Mr. Stoddard said, particularly the foundations and chimneys. Now, however, there are comparatively few brick foundations being built, but it is some consolation to know that brick still has the chimney. Even there sometimes, whole blocks of houses can be found with concrete chimneys, the idea sold to the builder by some enterprising Portland cement man.

MUST GIVE BUILDER REAL SERVICE

Mr. Stoddard further said that residence construction offers the biggest field for the use of brick, and that if only one out of every ten houses erected were built of brick every manufacturer would be oversold. In order to obtain some of this business it is necessary to render service to the builder. If it is easy for him to build with brick he will be much more favorably inclined toward it.

A long step forward toward increasing brick residence construction is the development of the brick hollow wall, which is considerably cheaper than the solid wall and even less expensive than frame construction. Tremendous interest has been evidenced in this new wall since its announcement at New York on the occasion of the Common Brick Manufacturers' Association convention. Los Angeles, Cal., has incorporated in its building codes this type of wall and approximately thirty or forty houses have already been constructed. One firm laid a sample of the brick hollow wall and immediately sold six houses to a contractor.

Brick interests made a serious mistake by not being represented at the various agencies and builders' associations which have a great influence in the formulation of building codes. The result is that whereas in some cities houses can be built of concrete block, eight inches thick, if brick is used in the construction the wall must be twelve inches. These building codes are antiquated and ought to be changed.

NOT OFFERING FACE BRICK COMPETITION

Mr. Stoddard concluded his most interesting talk by saying that common brick had no desire to encroach upon the interests of the face brick manufacturer but is entering the field of eighty-nine per cent. of the homes now being constructed of frame.

In a talk by V. H. Cartwright of the Lacon (Ill.) Coal & Clay Co., a new angle of the situation in regard to marketing of clay products was presented. The title of the address was "The Local Dealer and His Position in the Distribution of Clay Products."

Mr. Cartwright said that the possibilities of the small towns have not been given proper attention. Building supply dealers in the towns of very small population are most always the advisors of the man who intends to build. As a rule the dealers care little about brick or tile and prefer to handle frame rather than anything else. There are several reasons for this. The building supply dealer has never himself been sold on the proposition of handling clay products and is therefore not enthusiastic over them. The dealer should be accorded a profit of at least $1.50 per thousand on brick to make it worth his while to handle this commodity. Mr. Cartwright's talk is printed elsewhere in this issue.

EXCELLENT LUNCHEON HELD AT LaSALLE HOTEL

At the close of the afternoon session an auditing committee and a nominating committee was appointed with instructions to report at the luncheon-meeting at 12:30 Wednesday, March 9. The meeting was then adjourned.

Altho the attendance was unusually slim, there being only sixteen present, the dinner of the Chicago Section of the American Ceramic Society, which was held on Tuesday evening, at the Hotel La Salle, proved to be a chummy gathering. Following a delightful dinner which was enjoyed amid the interesting stories of unique experiences of those present. D. F. Alberry, of the Northwestern Terra Cotta Co., gave a brief review of the various papers that were presented at the recent meeting of the American Ceramic Society. There were many features of Mr. Alberry's resumé that were of considerable interest to those present.

W. W. Wilkins likewise reviewed briefly the papers that were presented at the new division of the American Ceramic Society known as the Art Division.

Immediately after the splendid luncheon at the Hotel La Salle, Chicago, the nominating committee announced the names of those who had been nominated for office for the coming year. The following men were elected: Eben Rodgers, Alton (Ill.) Brick Co., president; J. A. Reeves, Streator (Ill.) Drain Tile Co., vice-president; Cullen W. Parmelee, University of Illinois, Department of Ceramics, secretary.

Mr. Rodgers accepted the office and introduced the speaker for the afternoon, David Kinley, president, University of Illinois. Mr. Kinley chose as his subject the needs of the university.

Attendance at the school has so increased that the present facilities are entirely inadequate. Altho this increased attendance had been anticipated the state has made no provision for the extra number of students with the result that the University of Illinois is laboring under difficulties. President Kinley gave a graphic description of conditions as they are at the school, at the close of which he asked that the clay men of Illinois singly and as a body do all in their power to have the bill for the appropriation of $10,500,000 passed. The bill will come up before the legislature soon.

PASS RESOLUTION PLEDGING U. OF I. SUPPORT

Following President Kinley's remarks F. W. Butterworth introduced a resolution endorsing without reservation the program of the president and trustees of the university for the increased appropriation. The resolution in full follows:

WHEREAS, after due consideration, we find—

That the University of Illinois is in such financial condition that something must be done at once if it is to continue a first-class institution and give the kind of service that the citizens of the State demand;

That the appropriation for the university for the current year is but eleven per cent. larger than the appropriation of ten years ago, altho in the meantime the student attendance has doubled, the demands upon the institution in many other respects have more than doubled, and the rise of prices has decreased the purchasing power of money by more than fifty per cent.;

UNIVERSITY IN FINANCIAL STRAITS

That the university has been obliged to reduce its faculty, to permit its equipment to run down, to abandon its building program, and to leave everything but the most necessary repairs untouched in order to live thru the present biennium without a deficit; and—

That the next step must be either adequate funds or a reduction both in the quality and the amount of work which the institution can undertake;

And whereas, the future development of the clay, glass, cement and other ceramic industries, together with their ability to reduce the cost of manufacture of building materials, is and must continue to be, largely dependent upon the research work of the ceramic departments of our educational institutions and upon a continuous supply of technically trained men (witness the fact that the demand for such men at the present time is fifteen times greater than the number which the university is training):

THEREFORE, BE IT RESOLVED, by the Illinois Clay Manufacturers' Association at its Forty-third Annual Meeting in Chicago on March 8 and 9, 1921, that the association endorses without reservation the program of the president and trustees of the University of Illinois for increased appropriations for the ensuing biennium, believing that the appropriations recommended, amounting to $5,250,000 per annum, are reasonable and necessary for the maintenance and advancement of the university.

Mr. Butterworth also asked everyone present to signify by rising his willingness to go to his representative and personally ask that party's support of the appropriation. Practically every man responded.

The Chairman, Eben Rodgers, a few minutes later declared the meeting adjourned and the 1921 convention at an end.

(*Continued on Page* 511)

CEMENT MILLS RESUME OPERATION *in* EAST—DEALERS CUT PROFITS FIVE PER CENT

WHAT IS GENERALLY CONSIDERED to be be about the last expedient to meet the expectations of the prospective builder entering the construction market early this spring is the reduction of dealers' profit for brick delivery effective this date to 10 per cent. instead of the former rate of 15 per cent. says the Dow Service Daily building report March 12, 1921.

In complement with this action upon the part of distributors comes the announcement of a resumption of cement mills operation in the Lehigh district, which is the main source of cement supply for this market. Five more mills will soon resume operation, the Edison plant probably getting under way within the next fifteen days. This is to be followed later, if the present improvement in the building market continues by the Hercules, Phoenix, Security and Vulcanite.

HOUSING SHORTAGE ACUTE IN NEW ZEALAND

In this connection two strong factors developing within the last few days have a bearing. One of these is an inquiry for ten car loads of cement from Western New York to be delivered within fifteen days following acceptance. Another is the report from Consul-General A. A. Winslow of New Zealand, which is the best official confirmation of the development of the foreign building material market previously reported in this column, that has so far come to hand:

"At the last session of the Builders' Congress of New Zealand," writes Mr. Winslow, * * * note was made of the marked shortage of lumber, cement, metals and builders' hardware which was seriously curtailing construction work in general and especially the erection of suitable homes. No way seemed open to accomplish much toward relieving the immediate shortage, * * * Contractors have found it impossible to offer bids for construction work on any other basis than that the owners pay the cost plus ten per cent. as contractor's commissions. This was too expensive in many cases for the reason that it was in the interest of the contractor to make the building cost as much as possible.

SHORTAGE OF BUILDING MATERIAL

"The Builders' Congress passed a resolution to be sent to the Government urging that customs duties on imported" * * * (materials used in building construction) * * * be suspended and that railway rates on foreign (American) materials be the same as on local lumber. * * * Importers of American lumber have found themselves greatly handicapped owing to excess railway rates on imported building commodities. Resolutions were adopted asking the New Zealand Government to assist as far as possible in securing building supplies, especially cement since local production for the season is said to have been short of normal."

Similar confirmation is expected from other foreign countries showing that the export pressure upon American building material manufacturers later this year will be greater than is now thought possible. The same company that shipped common Hudson river brick to France two years ago, has just completed installation of machinery to manufacture brick all year around and other lines, especially metal products and builders hardware and equipment lines have already felt the call for their products in markets over seas.

HOME BUILDING TO FEATURE FIRST HALF 1921

The first half of 1921 is to be the habitation builders' heyday, both on price and supply of building commodities. He will constitute practically the only market for the building material producer who is at present hungry for business. Manufacturers will not be so desirous for small-quantity business six months from now.

No one can foretell what transportation facilities may be in the near future and many manufacturers are cautioning both buyers and dealers to have a stock on hand while they are still the dominant purchasing power. Their command of prices and delivery conditions will not be of long duration after the turn of the half-year. A single department of the forty-two items in the basic materials market proves the trend of events.

Shipments of cement from Zones one and two were 30 per cent. greater in February than in January. They were more than the total movement of cement in February 1920, equalling 30,000 barrels a day. The three largest companies having the greatest manufacturing resources at this date have less than 1,200,000 barrels of marketable cement on hand in the face of the fact that the building season is just about to start and the road construction program is of broader scope than ever before recorded, much of which is scheduled to start within the next few weeks.

The entire district of Zone one, which is the main source of supply for this market has 500,000 barrels of cement less than it had last year at this time.

CONSTRUCTION ACTIVITY BOUND TO DEVELOP

The year 1921 cannot be shaping for inactivity in construction when thus early such conditions of potential demand obtain against such actual condition of supply. No account is taken of export possibilities in this perspective nor of the return early in the year of railroads or commercial construction requirement. Industrial development is also omitted from the calculation.

The economic vacuum caused by the abrupt cessation of construction last year, running a period of four months, will have been filled with work now coming upon architects' boards before the building season is barely a month old.

* * *

Stage Is Set for "Own Your Home" Exposition

The Chicago Face Brick Dealers' Association is making comprehensive plans for the part that it will play in the "Own Your Home" exposition which will open at the Coliseum, Chicago, Saturday, March 26, and continue until April 2. Wm. P. Varney, manager of the Chicago branch of the Hydraulic-Pressed Brick Co., who is in charge of the Committee on Clay Products for the exposition, has given considerable time and thought to clay products interests and if his plans are fulfilled there is no doubt but that the exposition will give a big boost to burned clay building materials.

Every phase of home owning and home construction is being accorded recognition in the exposition program. People in Chicago and immediate territory are depending upon the exhibits presented at this exposition for suggestions as to construction features and furnishings for their own homes. Every phase of home owning will be dwelled upon, from the getting of the money to the choosing of the plans and materials and the consideration of the arrangement of furniture and fixtures.

With the aid of the manufacturers belonging to the Illinois-Indiana Division of the American Face Brick Association, the Chicago Face Brick Dealers' Association is building four model homes of miniature brick built on the scale of one inch equals one foot. These will be equipped with light and will represent prize winning homes in the recent architects' competition on house plans held for this purpose.

The accompanying illustration shows the architect's rendering of the facade that will be erected of clay products at the exposition. This will border the beautiful fountain terrace that will be erected in the east center of the Coliseum.

The home building spirit has broken out in Chicago, and during the past few weeks has been growing rapidly. The coming of the exposition just at this time of the season, when interest is again being awakened, seems to foreshadow a success. Building code revisions are being proposed in order to further encourage building in the city of Chicago. Clay products manufacturers will do well to spread the news of this exposition and to urge all persons to attend.

* * *

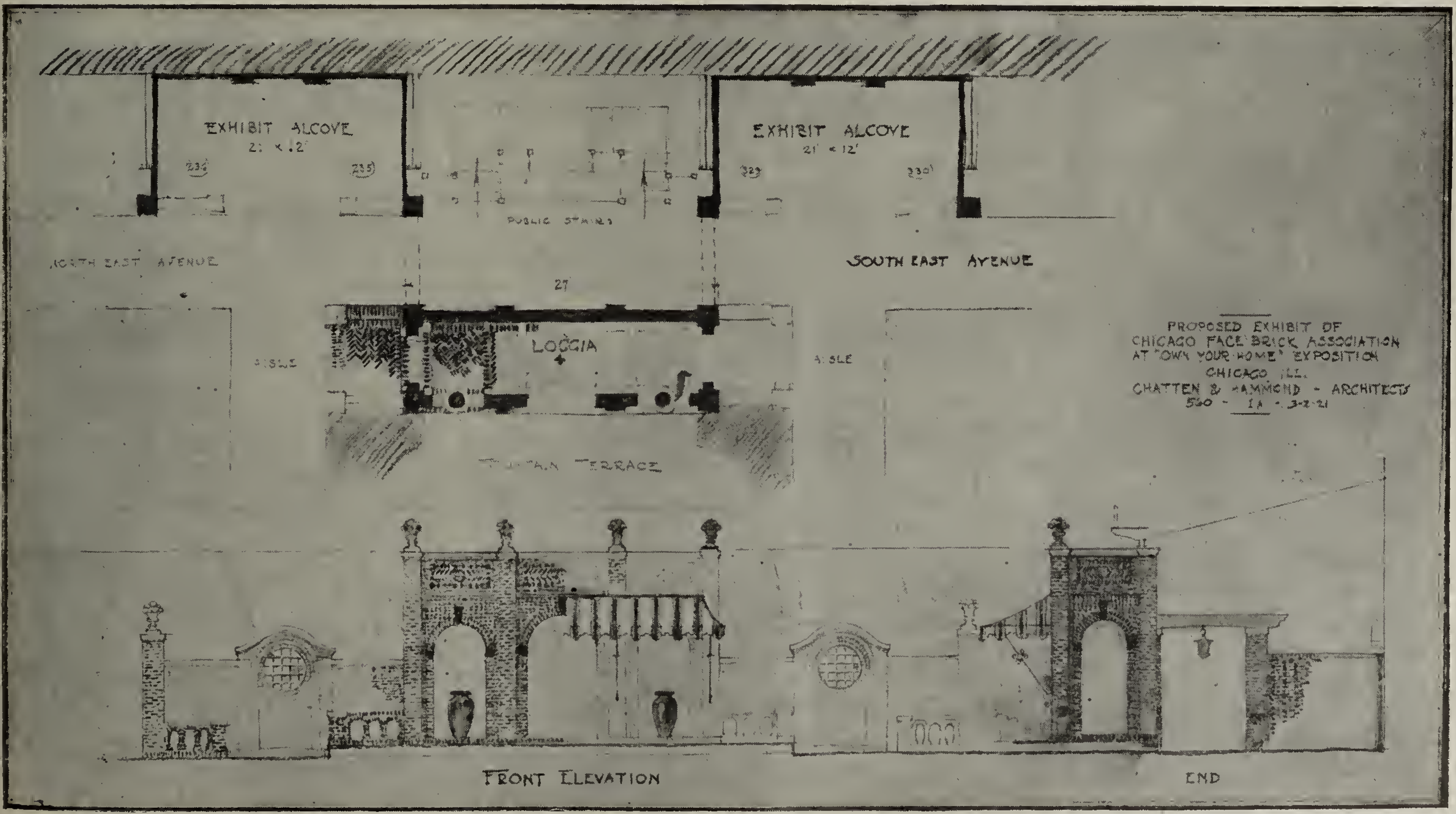
Using Brick to Shingle a Home

The desire of a house owner in Terry, Mont., to utilize brick in every possible manner led to the adoption of a roof constructed entirely with shingles of this material. The shingles are similar in size and shape to the ordinary variety, with the exception of the thickness, which apparently is in excess of the usual thickness of shingles. They are made from the usual clay material and are molded to any desired form. Apart from the thickness of the shingles, the roof resembles the ordinary roof.

* * *

Denmark Wants to Trade Brick for Coal

It is reported that Denmark has a superabundance of brick on hand and wishes to exchange them for American coal. These brick are to be shipped f. o. b. New York for $22.60 and approximately eighty million may be sent.



Drawing of Clay Products Exhibit at "Own Your Home" Exhibition, Chicago. Four Miniature Brick Houses Will Also Be Displayed.

The WEAKEST SPOT *in* CLAY WARE MERCHANDISING

Local Building Supply Dealer Has a Powerful Influence as to the Choice of Building Material Used in His Community and Should be Cultivated by the Clay Products Manufacturer

By V. H. Cartwright

General Manager, Lacon (Ill.) Clay and Coal Co.

IN SPEAKING on the subject of the local dealer and his position in the distribution of clay products, I am referring more particularly to the face brick viewpoint inasmuch as it is that phase with which I am most familiar.

During the past few years the American Face Brick Association, and also other clay products associations, has been conducting a campaign which has been quite extensive in the promotion of this material for building. The ultimate desire of this advertising is to reach the home builder. Inquiries and requests for literature signify that the advertising campaign has been productive of favorable results.

EIGHTY-NINE PER CENT. OF ALL HOUSES FRAME

As has often been pointed out, eighty-nine per cent. of all the houses built are of frame construction. The remaining eleven per cent. are constructed of materials divided between brick, stucco, concrete block and other materials. It has been felt that if the clay products industry could get one out of ten of the remaining eighty-nine per cent. of houses that are built of frame that the increased business would be enormous. However, are we getting this business?

It is encouraging to know that the public is tremendously interested and anxious to build with brick as is apparent from the large number of inquiries received from advertisers. Furthermore, the fact that they are willing to go to the trouble and expense of procuring booklets and literature offered and for which a nominal price is usually charged, indicates a sincere interest. However, according to Dodge reports of January, there were contracts for 306 residences let in the Chicago territory. There are about forty plants serving this district and if the brick manufacturers had been able to secure the choice of their material in just half of these houses, there would have been sufficient business for every brick manufacturer to start his plant. However, this has not been the case and frame is still being used for construction. What is the reason? Are we reaching the builder in the right way?

DEALER NOT MUCH INTERESTED IN BRICK OR TILE

When the man in the small town decides to build and his wife, of course, always takes a prominent part in a matter of this sort, they obtain all the literature procurable, and begin to make their plans. After making a decision they will go to the building supply dealer in the local town, who is usually considered an adviser on construction, but who also is usually a lumber dealer. They get more literature here, but the local dealer has never had much interest in brick and tile.

Altho a local dealer will handle the proposition he would rather handle frame houses. This is because he has more knowledge on this subject, and secures a more intimate service from the lumber manufacturer. The dealer will not openly argue against the use of brick but he will make such statements as this, "Where are you going to get the masons to lay the brick? Mr. Jones and Mr. Smith had to wait a long time before they could get bricklayers to come out here to build their houses and when they did finally get some they botched up the job and gave him a bum piece of work."

The result of a conference such as the above invariably results in the prospective builder being discouraged and finally deciding on building with frame. His enthusiasm for brick and hollow tile has been dissipated by the discouraging remarks made by the local dealer who is more intimate with the builder than any advertisement in a magazine or literature can hope to be.

INFLUENCE OF LOCAL DEALER

It is apparent that in the past, the clay products manufacturer has neglected to recognize the influence the building material dealer in a small town has in determining the kind of houses to be built in his territory. We must get in closer touch with our prospect. We will never get anywhere until we recognize the important part played by the small town building supply dealer.

It is impossible for brick salesmen to spend the time and trouble in reaching the very small towns in an effort to sell brick for one small house. The dealer is the legitimate man to handle such operations. If the dealer can be sold on the brick and tile proposition himself there would be no difficulty in getting him to go out and plug for it. If his confidence is won he can be made enthusiastic about the idea, and many jobs which at present are never heard of will result in orders for the brick and tile manufacturers. It must be recognized that the dealer is the man who swings the deal and the sooner the clay industry recognizes his important function the sooner the industry will gain headway.

Some time ago I talked with a dealer who has some twenty to thirty yards in northern Illinois. He is not at all interested in the brick and tile field. He stated that when a large building job comes along the brick manufacturer has a representative present and endeavors to secure the sale. Only the small business is left for the building supply dealer and this situation does not please him.

COMMISSION NEED NOT BE HIGH

The building supply dealer by reason of his standing and his business in the community in which he is located, usually knows the politics of the city, knows the things that are going on in his territory, and frequntly has influential friends in the organizations that can influence the choice of material put into a structure. The clay products manufacturer should realize this situation and take advantage of it, and it is certain that he will be benefited thereby.

Altho the amount paid to the building supply dealer by manufacturers of cement, lumber and many other materials, is considerably high, a small commission is all that need be paid the building supply dealer by the clay manufacturer. Most dealers will be pleased to handle brick for $1.50 to $2.00 per thousand, inasmuch as the brick are used in much greater quantities which makes up for the large percentage he receives from other commodities. Furthermore, he seldom needs to handle the material and clay products are of such a nature that it requires no insurance, will not spoil, rot or deteriorate. In the case of large structures such as school buildings, public institutions and so forth, the dealer would be glad to take less than this rate but he does feel that he is entitled to being considered in this class of business.

Again I say, why is it we are not getting the business from the small builder? To me it seems that it is because we are not getting into intimate contact with him. Our advertising is arousing his interest and partially creating a desire on the part of the builder to build with clay products, but it usually dies on the way. The building supply dealer in the small town should be encouraged to sell brick and we will then be able to get the full benefit of our advertising program.

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Fire Protective Ass'n to Meet in Frisco

The annual meeting of the National Fire Protective Association will be held in San Francisco, June 14, 15, and 16. The meeting is expected to be thoroly enjoyable and important business of educational value to the country will be transacted. Those wishing pullman accommodations should inform the secretary before April 1.

* * *

FACE BRICK MEN DISCUSS SALES PROBLEMS

THERE IS AN ENCOURAGING INCREASE in demand reported by the face brick manufacturers of Illinois and Indiana. This was brought out at the regular monthly meeting of the Illinois-Indiana division of the American Face Brick Association held at Hotel LaSalle, Chicago, March 9, 1921. Every manufacturer present told of the conditions on his particular plant relative to labor, fuel and demand. Inquiries are increasing steadily and a larger percentage is developing into the desired orders.

Little hope was held out for a reduction in the price of coal in the Illinois-Indiana district. Some wage adjustments were reported, and the general situation seemed to portend further readjustment in the near future. Some manufacturers reported wage reductions in the form of increased hours, that is, where laborers were working eight hours for a certain sum they are now putting in more hours at the same wage.

ARCHITECT'S FIGURES USUALLY HIGH

F. W. Butterworth of the Western Brick Co., Danville, Ill., stated that in many cases the prospective builder does not get beyond the architect with his intentions to build. Usually the architect gives the prospect a tentative figure on the cost of erecting his house and due to the architect's incomplete study of construction costs the figure is generally too high and in many cases prohibitive. If the owner could be made to take his plans to a reliable contractor and obtain real figures on the cost of construction, he would be pleasantly surprised at the great differences in the estimates.

Construction costs have come down to a greater extent than the ordinary person realizes. Mr. Butterworth cited the case of a schoolhouse which was submitted for estimates in February 1920 but was not built. In February 1921 this same building was again submitted for figures with no change in either the drawings or specifications, with the result that the latter estimate was twenty-five per cent. lower than the first.

Another instance was cited in the case of a building on which a series of figures were taken. The difference between the figures was astounding. One estimate called for a price of $88,000 while another contractor signified his willingness to to do the job for $59,000. The difference between these two bids would have been sufficient to pay for every bit of building material going into the building.

POSTAL SAVINGS BANKS SHOULD INCREASE SCOPE

Another manufacturer stated that an effort should be made to influence the Federal Reserve Banks to reduce rediscount rates. The present high rates are stifling any attempts of the speculative builder to go ahead. One of the best things that could happen, it was stated, would be a broadening in the scope of the Postal Savings Banks. This would offer the banks some competition which in turn would have a beneficial effect on industry. It was stated that if the facilities of the Postal Savings Department would be extended, the service would be particularly attractive to a large element of foreign labor, which has been educated to the possibilities of government savings banks in their home land, but who are loath to deposit their money in privately owned institutions, often hoarding savings in their homes and thus keeping cash from circulating.

One of the most important developments at the session was the resolution to begin a campaign to counteract the influence the lumber interests are exerting on the minds of the people thru advertising. The propaganda of the lumber people is giving the public a false impression of the real situation. Lumber prices have not come down to a pre-war level but are still, in most cases considerably above the 1914 level. Due to the fact lumber rose to an average of probably 220 per cent. above the pre-war level it has been possible for this material to drop further than most others and still remain at a high level.

FACE BRICK IN A HOME COSTS LITTLE

W. P. Varney, of the Hydraulic-Press Brick Co., Chicago, told of the elaborate plans being made for the proper representation of face brick at the "Own Your Home" exposition at Chicago, March 26 to April 2. The help of the manufacturers was solicited and they readily agreed to pay the sum of ten cents for every thousand brick shipped into Chicago during 1920, to make the face brick exhibit a success, such payment to be made by the manufacturer thru the various jobbers.

The division decided that the American Face Brick Association should do all in its power to inform building supply dealers of the true condition of the brick industry. The cost of face brick in a home is negligible, Thomas Moulding of the Thomas Moulding Brick Co. stated. In an average house of the $10,000 class, the cost of face brick used on all sides would be approximately $597.

E. D. Mattes, Decatur Brick Co., cited the case of a $700,000 building erected in Decatur, Ill., in which the cost of the face brick used was about $10,000. The important thing is to make the public realize this and destroy the idea which seems to be prevalent among the people that a home cannot be constructed cheaply of brick.

SELLS FACE BRICK NEW WAY

Novel Samples in Nifty Portable Case Solves Long-Standing Sales Problem—Miniature Brick Idealizes Product

AN INNOVATION in the method of merchandising face brick which involves a departure, quite radical in nature and clever in conception, has recently been introduced by the Western Brick Co., of Danville, Ill. Dealers and salesmen of this beautiful, durable and utilitarian building material have long sighed for a simpler and more effective method of displaying this commodity in a sales conference.

Heretofore, anyone attempting to sell a school board or any committee representing a public institution, have had to carry both huge bulk and tremendous weight. The difficulty in transporting the sample brick and the vexations attending the presentation of the sample brick before committees, often created a mood not at all conducive to good salesmanship with the result that the salesman's best efforts were not forthcoming. Enthusiasm was often masked by disgust.

After six months of diligent study an idea was conceived by the Western Brick Co. that would eliminate many of the above inconveniences. Simplicity, however, in the handling of the brick is not its only virtue. While the handling and transportation of the samples is made easy, the new idea enables the salesman to present the face brick in a more favorable form.

The method used is simple. It merely embodies the making of sample brick one-eighth of the size of a standard face brick. They measure 1¾x1x4 inches, are made under the same process as a larger brick and faced in the same manner as the various shades and textures of the regular face brick lines. Similarly, they are dried in a regular dryer and burned in the ordinary kiln.

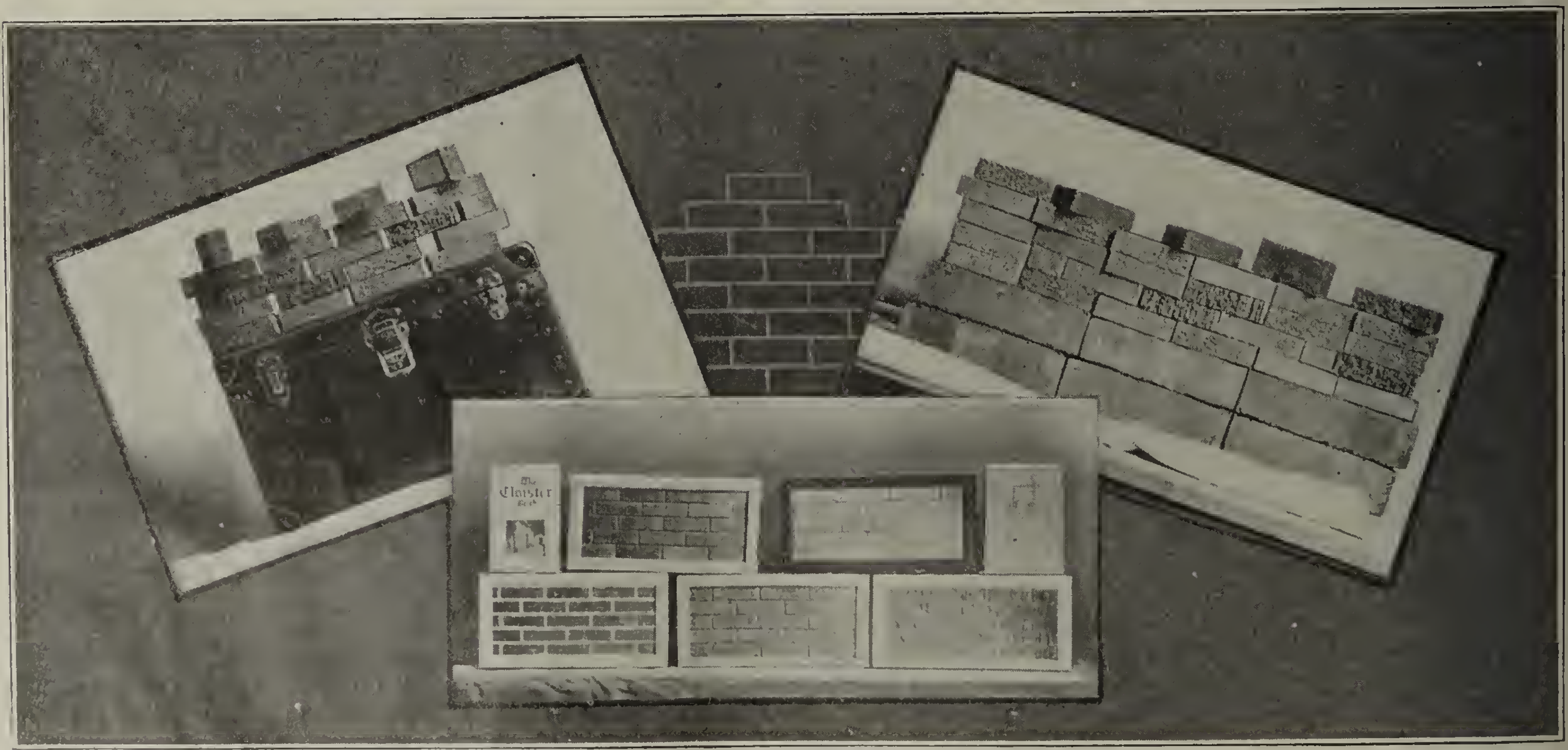
The miniature brick weighs approximately ten ounces. A standard size brick weighs slightly over eighty ounces or a little more than five pounds.

Panels measuring 12 by 17 inches containing about seventeen and one-half small brick are made up in the same manner as an ordinary full size panel with the exception that the mortar joints are, of course, in proportion to the size of the brick. These panels show the various shades, textures, bonds and mortar joints that ordinary panels show.

Due to the mortar bedding, the panel weighs seventeen pounds. Small, specially constructed cases hold three of these panels. The case is of a very convenient size to carry, being approximately the size of a common traveling bag. Five to six cases would enable a dealer or salesman to handle the complete line of face brick. Thus only 250 pounds of weight represent the full line of samples that would be handled, against eight times that weight were full size brick used. The convenience of this scheme is perfectly obvious when you consider that these cases may easily be placed in a two-passenger automobile and handled with facility.

Altho the idea was conceived for the purpose of facilitating the handling of samples and the merchandising of face brick, it has taken on another aspect probably not considered during the development of the scheme. The panels besides simplifying the distribution and presentation of face brick samples, idealizes this product. It presents brick in a more propitious form. Mortar joints, when properly made in color and form, accentuates the beauty of the brick. Furthermore, the panels enable the purchaser to get a better perspective of the commodity.

The manufacture of these miniature brick presented an interesting but complex problem. In the first place it was necessary to design a special machine since the small aperture of the die for the miniature brick would cause too much back pressure



Three Actual Photographs of Miniature Brick Samples. In the Upper Left Hand View is the Salesmen's Sample Case Which Holds Three Panels of Brick Like Those Shown in the Center Picture. The Center Picture Portrays the Miniature Brick Laid Out in Panels with the Regular Mortar Joints. Each Panel Represents About Twelve Square Feet of Regular Size Brick Wall. The Upper Right Hand Photo Gives the Relative Size of the Miniature and the Regulation Size Face Brick. The Sample is Just One-Eighth as Large as the Ordinary Brick and Retains the Same Detail of Texture.

and hence extraordinary consumption of power, to try to make the brick in an ordinary pugmill and brick machine. Accordingly, a special die and machine was built to form the column of clay.

The column of clay as it issues from the die is treated in the same manner as a regular size column with regard to the formation of a rough texture. It is then wire cut by using a hand operated machine and the brick placed on dryer cars and placed in the dryer in the regular manner. Because of their small size, less bulk, weaker strength, etc., it is necessary to burn the miniature brick separate from the standard brick. However, they are set in a regular kiln and burned in the same manner as the standard brick so that the same color effect is produced and so that they will be true representations of the regular lines of brick.

When considering the purchase of face brick, the buyer tries to picture the finished brick wall in his mind. It is hard for many persons to get a proper concept of what the ultimate wall will look like when purchasing the brick from samples. The small brick when made into panels has the appearance of a finished brick wall from the distance as it is usually viewed by a passerby.

Another feature in the utility of this small sample comes in the mailing out of samples to prospective customers. Because of the small size of the brick, postage rates are much less However, four of them are usually sent in one carton, either of the same variety or four different shades. Even at that, the postage rate is reduced one-half at the same time giving the customer better opportunity to judge the shades and select a grade of brick from the four samples at hand.

In case the purchaser wishes to verify the appearance of the brick exhibited in the small panels, he can readily visit the exhibit rooms of the dealer and there see the full size brick. It is not intended that the miniature displace the regular size. The two work hand in hand and the use of the samples will undoubtedly be welcomed everywhere by dealers handling face brick.

⁂

Coal Prices Hitting Bottom

New prices have been made by large southern Illinois producers on both domestic and steam coal, the latter, of course, for contract under the new year, says the "Black Diamond," of Chicago.

Prices for steam business on new year contracts for southern Illinois coal are as follows: Run of mine, $3.65; number 3, $3.40; number 4, $3.30; two-inch screenings, $3; inch-and-a-quarter screenings, $2.85; and number 5, $2.60.

Prices for the various fields are as follows:

Southern Illinois, including Saline, Franklin and Williamson Counties, spot coal, domestic sizes, $3.65; mine run, $3 to $3.50; screenings, $2.60 to $3; with but small tonnage moving on the market; domestic sizes moving at circular, $3.65; steam sizes on contract, $2.60 to $3.65.

Indiana fields, free coal, prepared sizes, $3.75 to $4.50; mine run, $2.25 to $3; screenings, $1.25 to $2; on contract, domestic sizes, $3.75 to $5; mine run, $3.50 to $3.75; screenings, $3.25 to $3.75.

Central Illinois, spot quotations, domestic sizes, $3 to $4; mine run, $2.25 to $3; screenings, $1.25 to $1.90; on contract, domestic sizes, $3.50 to $4; mine run, $3.50 to $4; screenings, $3 to $3.50.

Peoria district, spot prices, prepared sizes, $4 to $5; mine run, $2.75; screenings, $1.25 to $2; on contract, prepared sizes, $2.75 to $4; mine run, $3.25 to $3.50; screenings, $2.75 to $2.85.

Spring Valley, free coal, six-inch chunks, $4.75; on contract, $4.50; washed inch-and-a-quarter screenings on contract, $3.85.

Prices at Columbus, Ohio, have shaded a little, but operators express the belief that as soon as the demand quickens prices will be stronger and then will work up gradually. Hocking lump is $3.50 to $4; Pomeroy lump, $4.25; Hocking mine run, $2 to $3; Hocking nut, pear, and slack, $1.75 to $2.25 f. o. b. mines. What little steam coal was offered recently at $1.50 has been cleaned up and little is being made, according to operators, because of the decreased demand for prepared sizes.

Buyers in the Pittsburgh market state that they have been offered three-quarters low sulphur gas coal at $2.75, with run of mine at $2.25 and slack at $1.90 to $2 per ton, with steam coal slightly under these figures, but as to quotations nothing can be said to represent the market, as there is none.

⁂

New York Exempts Homes from Taxes

New York City has taken a definite and long step forward toward solving its housing shortage. The city council has recently passed an ordinance exempting from taxes all buildings erected for dwelling purposes exclusively, excepting hotels, until January, 1932. In order to benefit under this act it is necessary that the house be constructed since April 1, 1920, or if not completed, that construction be commenced before April 1, 1922. The exemption is granted to the extent of $1,000 per room for each living room.

Allen E. Beals of the Dow Service says, "A week has not elapsed since that ordinance was enacted, yet there is scarcely an architect in Brooklyn today who has not from one to six dwellings or apartment operations on his boards, whereas in December he reported week after week that he did not have a thing except a few preliminary sketches.

⁂

Invents Perforated Drain Tile

There has come on the market recently a new kind of drain tile manufactured by the Ohio Farmers Clay Co., Wooster, Ohio. The tile are the same size and shape as ordinary tile, but have several rows of perforations at the top. The idea of the holes is to provide a better chance for the water to enter the tile, as in ordinary tile, the inventor, C. P. Funk claims, the joints oftentimes close by the expansion of the tile and greatly hamper the flow of water.

The extra cost of perforated tile is about one and one-half cents a rod more than the regular tile. Mr. Funk has been connected with the Ohio Experiment Station and the College of Agriculture, and has made a careful study of drain tile for more than twenty-five years.

⁂

Concrete Block as Paving Material

Concrete blocks formed under high pressure are the latest competitors entering the field of road building materials. The new road paving method is known as the "Hercules-Ajax-On Road Building Method," and it is claimed is considerably cheaper than any pavement yet devised. George W. Jackson, of Chicago, Ill., is endeavoring to incorporate changes in the specifications for the state and Cook County roads in Illinois, to admit this new type of pavement, it is said.

Hercules-Ajax-On will reduce maintenance cost to a minimum as it is said to be practically indestructible and will withstand truck weights of twenty tons.

⁂

Utah Public Regards Present Prices Favorably

People at Ogden, Utah, feel that the price of brick is down as low as it will go, and the Ogden Pressed Brick & Tile Co., and Ashton Fire Brick & Tile Co., are noticing an increase in orders. Some home building is being started but considerably more is in prospect.

PIPE WORK THAT PAYS

This Article Tells the Correct and Workmanlike Manner in Which to Handle Pipes and Fittings —Proper Tools to Use and Methods to Follow

By G. H. Radebaugh

Asst. Manager Shop Laboratories, Dept. of Mechanical Engineering, University of Illinois

THE THREADING and fitting of pipe is one of the many jobs incidental to clay plant operation. The piping of water for use at different points; the use of steam pipes in dryers, hot floors and sewer pipe factories; the installation of gas and oil pipe lines, makes it absolutely essential for the clay plant operator to avail himself of trade practices in pipe fitting, so that he can carry on this type of work with the least possible expense. Pipe fitting is not difficult work. It is necessary, however, that a few of the more common trade tricks or practices be learned.

Pipe and pipe fittings have been completely standardized by the manufacturers and one of the best helpers for the planning of a job is the knowledge of the different styles and types of fittings and tools.

TOOLS USED ON PIPE FITTING JOBS

The tradesman who works with pipe does not require a large number of tools; for ordinary pipe work only a very few will be needed, but in supplying your work shop with these tools, care must be exercised in their selection, as many inferior designs are on the market. In Plate 1 are shown some of the most common and substantial pipe tools. A pipe tap, Fig. 103, should be made from the best grade of high carbon steel and tempered. This tool will not give service if it is not made from as good or a better grade of steel than just specified.

Pipe taps are made in sizes of ⅛ inch to as large as ten inches. When tapping holes in fittings, the hole has already been drilled, but many times it is necessary to drill the hole to receive the tap. For the different sizes of standard pipe taps it is necessary to drill holes the proper size so that a full thread will be cut with the tap. The table A shows the size drill to be used in drilling. Example: If a hole is to be drilled and tapped for a one-inch pipe, a 1$\frac{3}{16}$-inch drill should be used, as shown on the table.

CLEAN SMOOTH THREADS ESSENTIAL

The pipe stock and dies, as shown in 104, is a design that will be found well constructed, serviceable, and dependable. In this set of dies, die blocks from ⅛ inch to 1¼ inches with guides are supplied. Any range in sizes may be selected in these die sets. In threading pipe, clean, smooth threads are essential and these can only be secured by using a good stock and die. The standard pipe thread in this country is known as the Briggs standard. Is is a V-thread and is tapered ¾ inch to the foot, or $\frac{1}{16}$ inch to the inch. The number of threads to the inch on standard sizes of pipe are: ⅛ inch—twenty-seven threads to the inch; ¼ inch and ⅜ inch—eighteen threads to the inch; ½ inch and ¾ inch—fourteen threads to the inch; and 1 inch, 1¼ inch, 1½ inch, and 2 inch—11½ threads to the inch. 2½-inch pipe up to as large as 10 inches is supplied with eight threads to the inch.

The pipe tap 105 is provided with a drill point; this type of tap is known as a combination tap and drill, and is used on jobs where the starting of the standard tap (103) would be

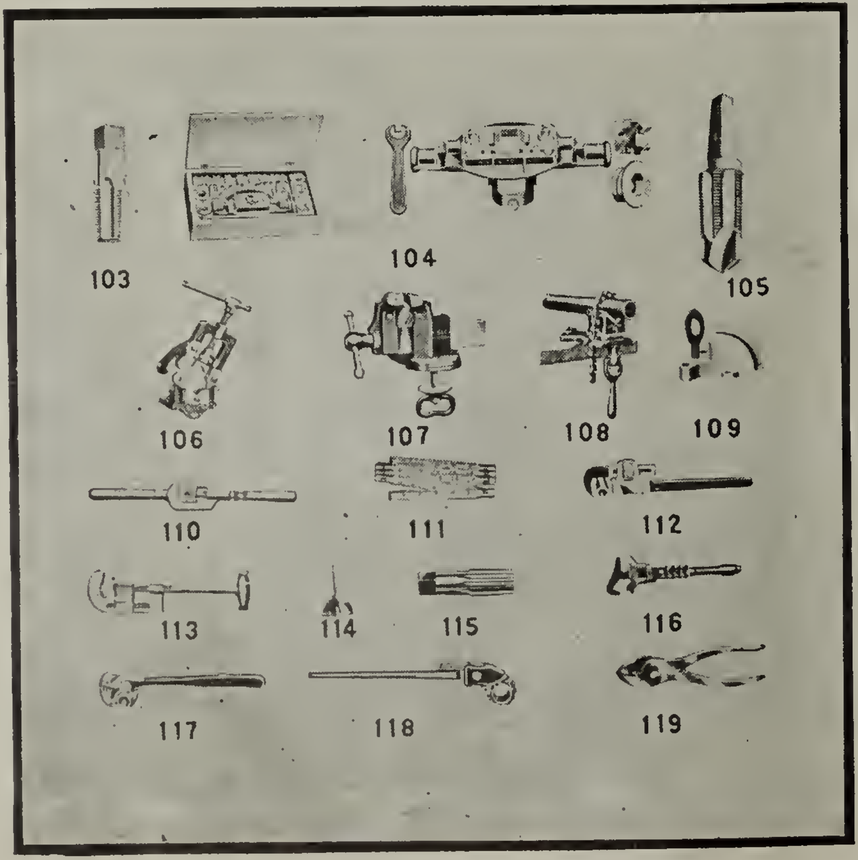


Plate 1.

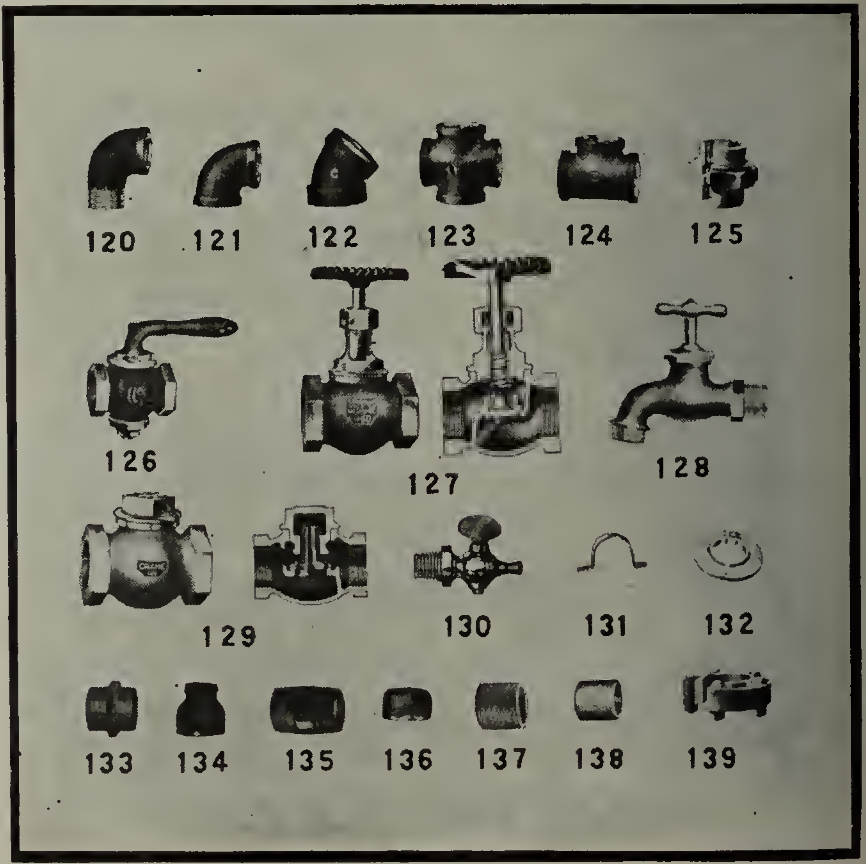
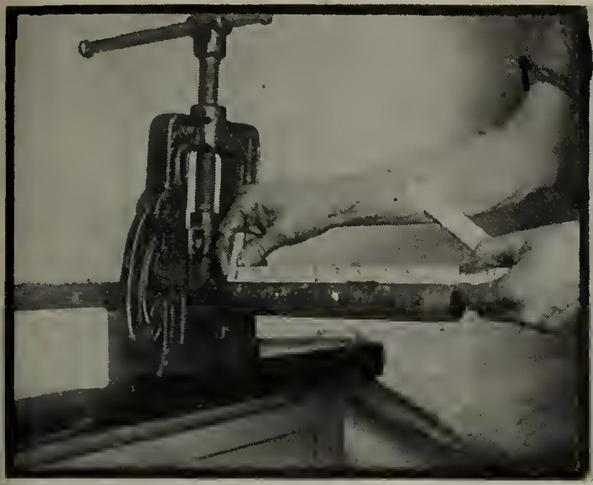
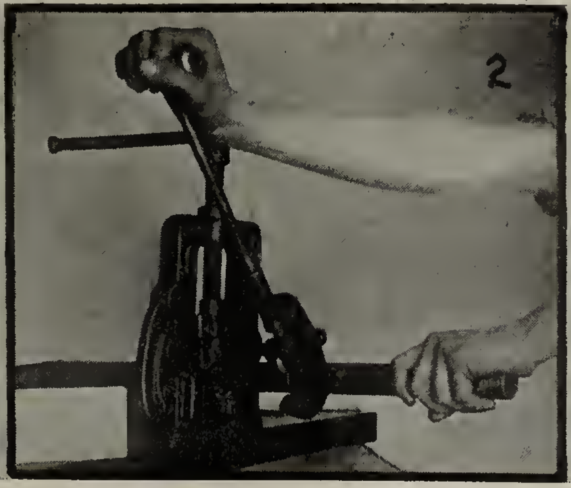
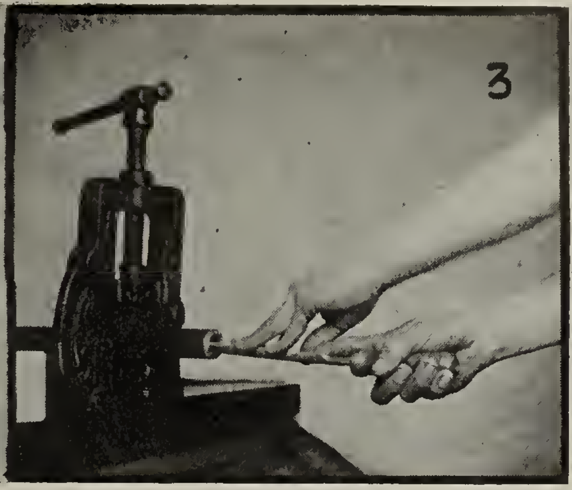


Plate 2.







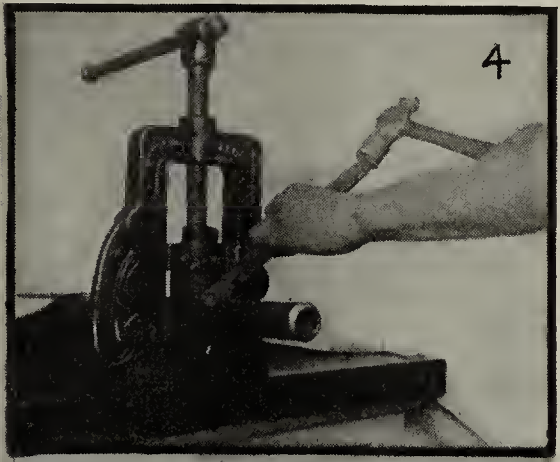
impossible. The threaded portion of these tools is an exact duplicate of the threaded part of the standard pipe tap. Understand that this drill point does not necessarily drill the hole to permit the tap to enter. Its function is to enlarge the hole to the proper size.

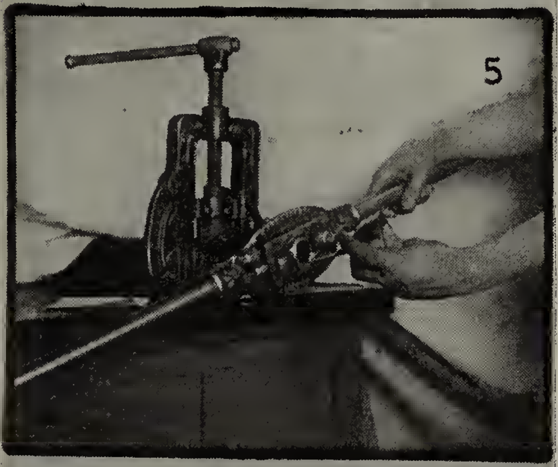
HOLD PIPE SECURELY

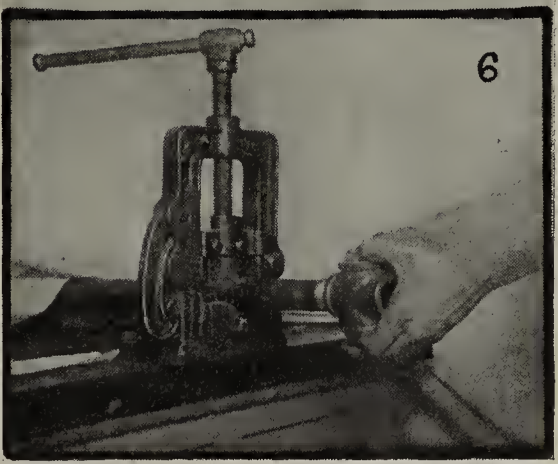
When threading, cutting, or making up pipe, it is necessary to provide methods for holding the pipe securely, so that it will not rotate. The standard and effective usages are shown in figs. 106, 107, and 108. The vises (106, 107) are easily clamped to a bench or to the side of the building. They are fastened down with lag screws or bolts. The quick acting vise (106) is released by a half turn of the handle, and the latch is released as shown in the view. The top is raised and the pipe is removed sideways. This type of vise is made from malleable iron.

TRIMO PIPE WRENCH ESSENTIAL

The combination bench and pipe vise (107) is on a swivel base and is made extra strong. This type of vise is very serviceable, as it can be used for general bench repair work, blacksmith work, and pipe-threading and fitting. The chain grip vise (108) is good only for pipe work. Its holding range is much greater than the other two vises described. To use this vise, the small lever under the vise is loosened, this releases the chain from its fastenings. The chain is then lifted and the pipe removed.



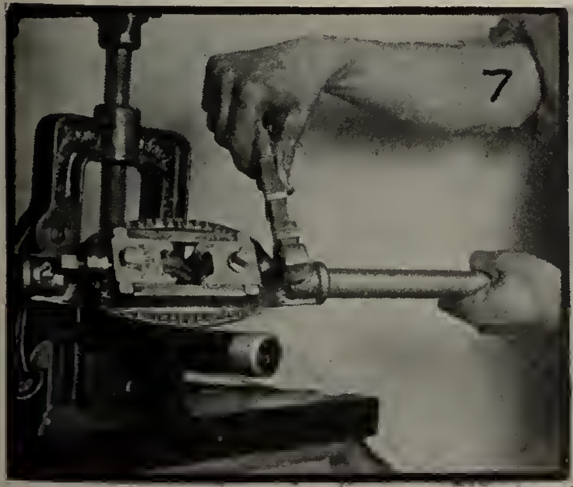


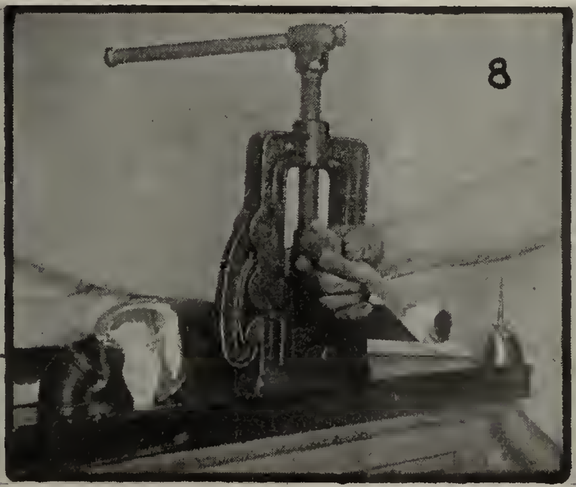


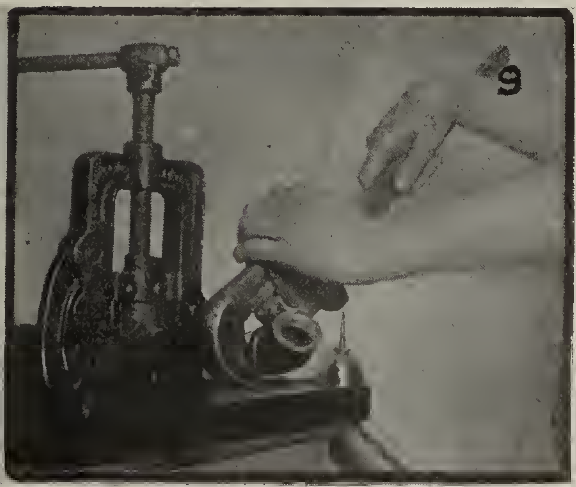
The tap wrench (110) is used on taps 103 and 105; it is not necessary to buy a wrench of this design. A little time in your shop and a forged wrench can be made that will prove serviceable. The zigzag rule (111) is a spring jointed rule and is made in 3, 4, 5, 6 and 8 feet lengths. This is the type of rule best suited for pipe work; it is easy to handle, yet gives a long measuring range. The genuine Trimo pipe wrench so well known is shown (112). Its feature of design is its rigid construction and its gripping power. It is almost impossible to do much of a pipe job without this or similar pipe wrenches. The wrench (116) will serve for general work. It is a pipe and monkey wrench combined. When screwing pipe into a fitting, judgment must be exercised as to how much pressure should be applied to the wrench. Oftimes the question will be raised; how far should the pipe screw into a fitting to guarantee a good, tight joint? A method of judging this is when a full thread has been cut on the pipe, it should screw into the fitting and tighten up, leaving two full threads uncovered. This is an old trade practice and is dependable.

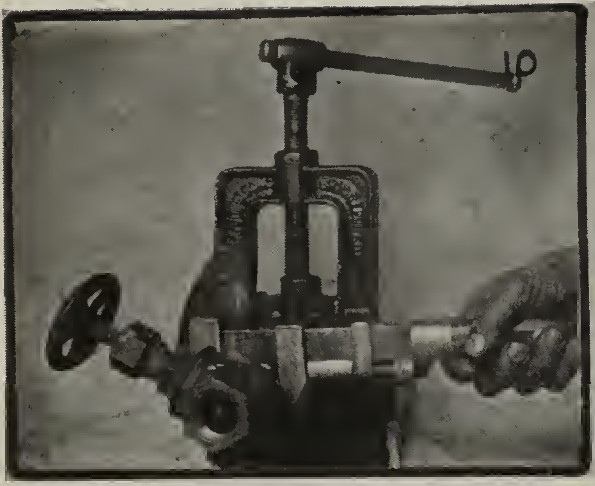
USE GOOD LARD OIL

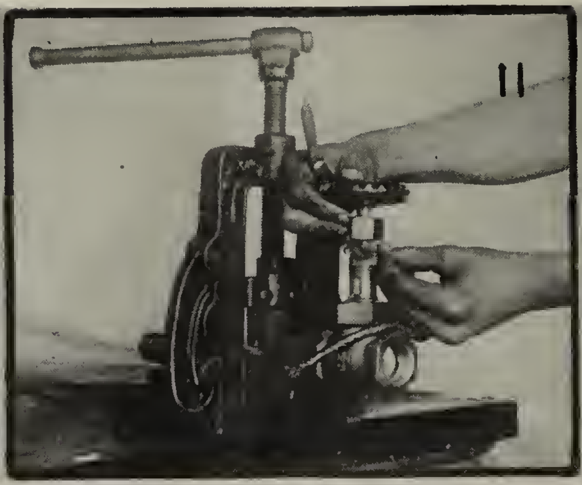
The pipe cutter (113) has three steel cutting discs. These discs when worn out can be replaced with new ones. This makes it a tool of long service. It it best used on large pipe. The most common cutter used on small work is one with two rollers and one disc. The oil can (114) should contain the best

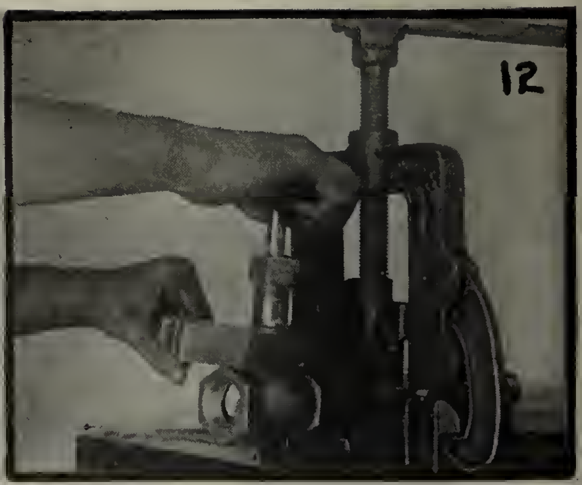


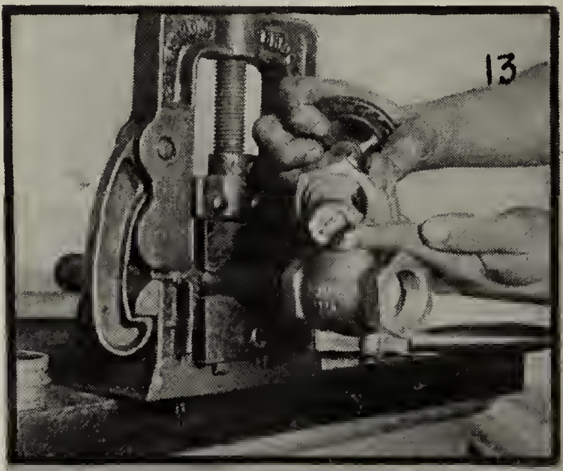


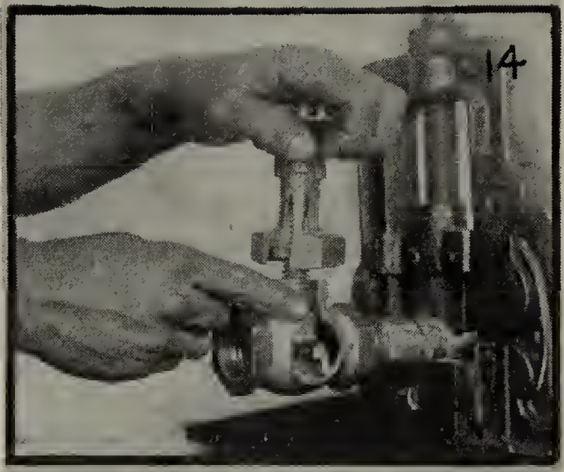


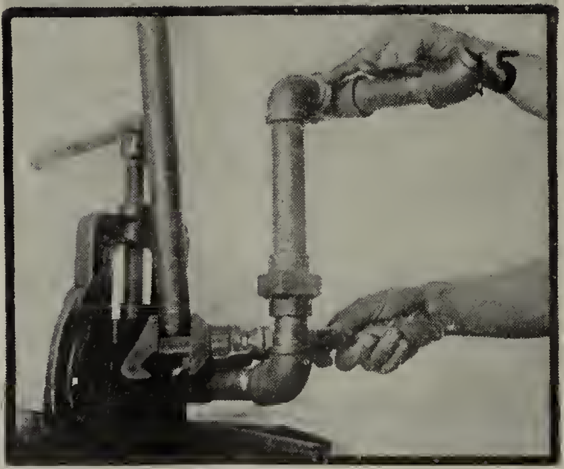












grade of lard oil. When cutting threads this oil should be used in liberal quantities. This can be supplied with a spout, with a large opening.

Lard oil can be purchased or supplied from the lard jar in the plant storeroom. To make lard oil from lard, heat the lard and mix while hot with an equal amount of cotton seed oil.

The reamer (115) is not a necessary pipe tool for farm pipe work; but its advantages are many when a hole is to be tapped. This reamer tapers the hole, which makes the tapping job much easier, as the tap will start in the hole without much pressure. The wrench as shown in 117 is used on finished fittings or nickel-plated pipe. It is not a necessary tool except when installing plumbing fixtures in the home.

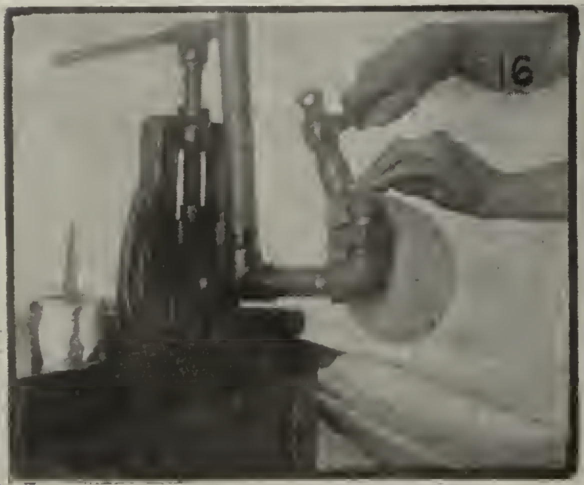
SIZES OF VARIOUS WRENCHES

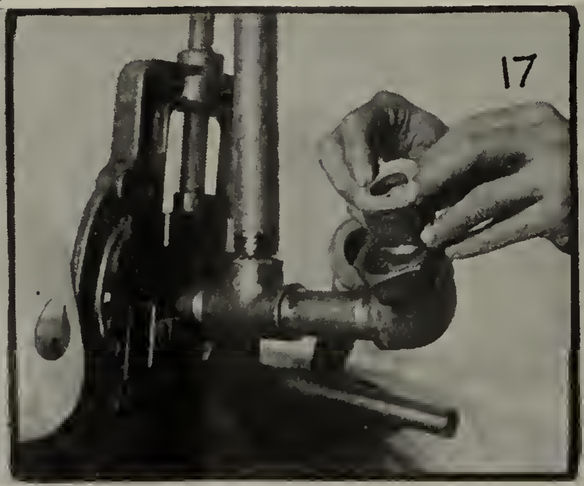
The chain pipe wrench (118) has milled jaws, tempered. This tool is not made in short lengths, but is always used for the larger pipe work,—one inch up to six inches. The sizes of this wrench are designated by number. The number one wrench is designed to hold pipe from one to two inches in diameter and is twenty inches long. The number three wrench holds a pipe 1¼ inches to six inches and is 37 inches long. The pliers (119) are useful for fitting small pipe, such as oil and fuel supply pipes on the tractor or stationary engine. These pliers are adjustable for sizes of pipe from ⅛ inch up to ⅜ inch. A screw driver end is supplied on one of the handles. The best tools of this design are made from tool steel and are tempered to insure long service.

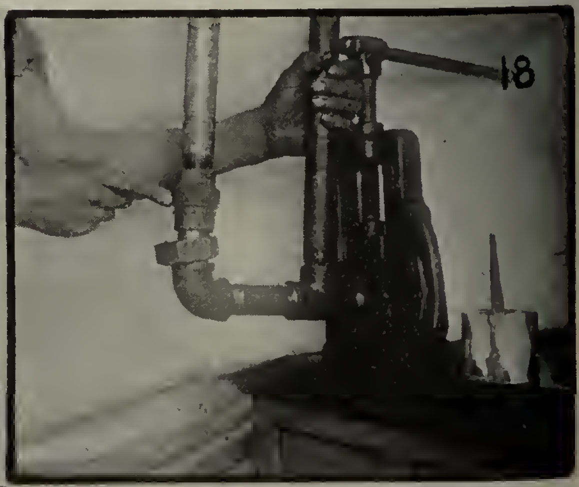
In Plate 2 styles of the pipe fittings that will be found necessary in the installation of a farm job of pipe work are shown. These screwed pipe fittings are made from malleable iron in different weights designated as Low pressure, suitable for pressures up to 125 pounds per square inch; Standard working pressures, up to 125 pounds per square inch; Medium pressures, from 125 to 175 pounds per square inch; Extra Heavy, working pressures from 175 to 250 pounds per square inch; and Hydraulic pressures up to 800 pounds per square inch. The standard malleable fittings as shown are made either plain or beaded. The plain fitting is the most common for farm installation; but added cost for the beaded fitting will be justified by the added strength and durability. Black pipe and fittings should be used for steam and hot water heating systems, oil or gas, etc. The galvanized for supply and waste pipes on pumping systems, pipe lines for water supply. Standard fittings and pipe are made either black or galvanized.

PIPE FITTINGS AND VALVES

The service ell as shown in Plate 2 (120) is commonly called a steel ell. It is an elbow (121) having an outside thread on one end. Its use eliminates the close nipple. The elbow (ell) is used in making an angle between adjacent pipes. This angle is always ninety degrees with this fitting, but if a forty-five degree angle is required, the forty-five-degree ell shown in 122 is used.







The cross (123) has four branches arranged in pairs, each pair on one axis, and the axis at right angles. This fitting can be used in a pipe run for the same purpose as the tee (124) by closing one of the branch openings. This can be done with the pipe plug.

Later if an outlet is desired the pipe plug can be removed from the cross and connection made. The tee (124) has one side outlet at right angles to the run. This fitting is used to permit the entrance of a pipe at right angles to the run.

If an installation of pipe requires a drain, the tee can be used, introducing a pet cock (130) with short nipple (137), and reducer (134). The union (125) is known as a nut union. The flange union is shown in 139. The nut union is used on two-inch sizes and smaller. The flange union for sizes larger than two inches. The nut union as shown is made from brass and malleable iron. This union requires no gasket. When tightened the soft brass makes a tight joint on the harder iron. Flange unions are made of cast iron or malleable iron in standard, extra heavy, and hydraulic weights.

MALLEABLE IRON UNIONS COMMON

The most common unions are all malleable iron and require a gasket. The union is used to finish a pipe run without the use of right and left-hand threads on the pipe and pipe fittings. The stop and waste cock as shown in (126) is used to stop off supply to a pipe. It is provided with a waste or drain which insures the draining of a pipe line to prevent freezing.

The globe valve (127) with non-heating handle is made for a steam working pressure up to 150 pounds. This valve is made from brass, and its design is shown in the section view.

In frequent times these valves must be packed and the valve seat reground or replaced. Valves of this design are made in sizes from one-eighth inch to three inches in standard and extra heavy weights. The faucet as shown in (128) is provided with a thread that will fit into any standard pipe fitting. On the mouth of the faucet a standard hose coupling thread is provided. This is the common fitting used for hose connections.

AIR COCK MADE OF BRASS

The check valve (129) as shown in the sectional view is provided with a flat seat, and has a full opening. It is so constructed that the back pressure must come on top of the valve. This prevents side wear of the seat. Check valves are used to prevent back pressure. On any power pumping installation generally it is necessary to use the check valve. Check valve seats can be reground. To inspect the valve, the top nut is removed and the feather or check valve disk is removed for inspection. If found worn, it can be reground. The air cock (130) is made from brass. It can be used as a drain cock. One of its uses has already been explained. The pipe clamp (131) is cheap and will be found effective. It is used when hanging or locating pipe lines. Many times pipes are held in position by nails, but with a strap clamp of this design a much neater and more substantial job can be done. The floor flange (132) is designed so that it may be placed around a pipe after it is in place. The use of the floor flange is necessary only when a finished job is required.

HOSE FITTING THREADS DIFFERENT THAN PIPE

The special hose fitting (133) is very necessary when hose connections are made on a pipe line. The hose fitting threads are a different standard than the pipe fittings. This fitting has a standard pipe thread on one end and a hose thread on the other. The reducer (134) has a larger size at one end than at the other. This fitting would be used in a run of pipe to receive a larger or smaller pipe. The reducer is used many times when working up old fittings of odd sizes on a job.

Nipples are short pieces of standard pipe, threaded on each end. When a small amount of unthreaded surface is left in the center, as shown in (135), the nipple is known as a short nipple. When the threads run together at the center, as shown in (137), the term "close nipple" is used. The longer nipples are classified as "long" and "extra long." They range in length from four to twelve inches. The cap (136) is used to close up ends of pipe. It also can be used to close up an open pipe fitting by introducing the close nipple. When several lengths of pipe are joined together, the coupling (138) is used. This is a threaded sleeve, threaded inside to suit the exterior threads of the pipe. In using up short pieces of pipe the coupling can be used to join them together.

MAKE PENCIL SKETCH OF JOB

Measuring Pipe to Insure Close Fits.—In making up pipe with more than one piece it is called a pipe run. If a run of pipe is to be fitted up, the job should be completely planned and measurements taken to insure accurate fitting. The location of required fittings being established, the pipe is measured as shown in Fig. 1, and marked. It will be found that in obtaining measurements on a job that a small pencil sketch or layout should be made and all the measurements taken should be entered on this sketch. This is done before going to the bench to cut the pipe. In doing this time can be saved.

Cutting the Pipe to Length.—The next operation is to cut the pipe where it has been marked. This is done as shown in Fig. 2. The cutter should be twisted around the pipe, screwing in on the handle. This advances the cutting disc into the pipe. The burr that is found on the outside when using a three-wheel cutter is rolled down flush with the above mentioned type of tool. This cutter is only used on pipe of the smaller sizes.

PIPE MUST BE CLEANED OUT

Filing Away the Inside Burr.—When the pipe is separated a burr will be found as in Fig. 3, where it is being removed with a half round file. A special burr reamer is used by the tradesman for this operation. It is important to clean out the inside of the pipe to insure a full opening of the pipe head. When using the three-wheel cutter, as stated a burr is formed on the outside of the pipe. This must be removed with a file, so that the die can be started.

Cutting Pipe With Special Chisel.—Many times pipes are cut into by using a special chisel, as shown in Fig. 4. When performing this operation, do not crowd the chisel. It will cause the pipe to bend in. This happens only on the smaller sizes, however. Deliver blows with the hammer just strong enough to cut the metal. This tool can be made in the farm shop. An operation of this kind many times is necessary on pipe jobs when it is impossible to use the pipe cutter. When working large well casings, cutting them to desired length with the special parting chisel is very common practice.

KEEP DIE CLEAN WHILE CUTTING

Cutting Thread With Adjustable Die.—To start the die on the pipe to cut a thread, be sure that the proper size dies and guides are used. When starting the right-hand die, push it on the pipe with considerable force and turn it clockwise, as shown in Fig. 5. This will start the die to cutting. The further procedure is to turn the die stock until a full thread is cut. This can be noted by end of the pipe coming thru the die two or three full threads. When cutting threads it is necessary to clean the die. This is done so that the chips will not ride the die and mar the newly cut thread. To clean the die of all chips,—that is, during the process of cutting the threads—after each complete turn of the die, it should be turned counter-clockwise about ten degrees. This breaks the chips and they fall from the die. Many times threads on pipe are battered or flattened out. The die or file is used to straighten up these threads before placing on a fitting.

Testing Thread With a Fitting.—After the thread has been cut as described, it is good practice to test the thread with a standard pipe fitting. This is done as shown in Fig. 6. If the thread is large, the die can be run on to the pipe having four full threads extending from the face of the die instead of three. If this does not permit the placing of the fittings, reset the die and run over the cut threads until they allow the fittings to be screwed on the proper distance.

ADJUST DIE BLOCKS TO NEEDS

Resetting Die Blocks.—The adjustment of the pipe die used in this operation is very simple. Notice in Fig. 7 the set and lock screw. If the die is cutting large, the die blocks are adjusted closer together. If the thread is small, they are separated. The dies as shown in this view are set larger than standard. A very good trade trick is to set dies using a standard pipe nipple. This, however, is not necessary when dies are supplied with set lines, as shown on this die stock.

Making a Tight Joint.—When assembling pipe and fittings, a small amount of white lead must be placed on the threads, as shown in Fig. 8. This will seal the threads when the lead dries. It also prevents the threads from rusting. On jobs where white lead has been used on the pipe joint, it is an easy task, if a change is desired, to unscrew the pipe from the fittings after the job has been in service for a long period.

REMOVE GRIT FROM THREADS

Screwing the Fitting in Place.—Before placing the fitting on the newly cut thread, it is always good practice to look for grit or thread chips on the pipe or on the fitting threads. After the inspection the white lead is placed on the pipe and the fitting is screwed in place by hand until tight. Then the pipe wrench is used to complete the operation, as shown in Fig. 9. When using the beaded pipe fitting the pipe wrench is placed on the bead and held to one grip position if possible. This prevents the scarring up of the fitting. When tightening up large pipe, it is a good plan to deliver light blows with the hammer on the fitting while the wrench strain is on. This causes the fitting to be screwed on much tighter.

RUSTING MAKES PERMANENT JOINT

Rusting the Pipe Joint.—When an extremely rigid connection is desired a rust joint can be made by placing a paste on the threads. This oxidizes the iron. The two pieces rust together and harden into a solid mass. This joint cannot generally be separated except by destroying the fitting or the pipe. A good recipe for an oxidizing paste is the proportions of twenty pounds of cast iron borings or filings, ¼ pound sal-ammoniac, ½ pound of flowers of sulphur mixed to a paste with water.

Setting the Globe Valve.—This valve should be placed on the pipe so that the constant pressure will be under the valve. (Fig. 10.) If the valve is so placed, it can be repacked with the pressure on the line. The pipe to receive the valve should be held in the vise and the valve screwed on to the pipe using a monkey wrench. Too many times a costly globe valve is ruined by using a pipe wrench on the hexagonal shoulder. Before placing a valve, all chips and rust scale should be removed from the inside of the line. These particles act as an abrasive when they come into contact with the valve seat.

LEAKY VALVE USUALLY NEEDS GRINDING

Packing a Globe Valve.—The packing nut is unscrewed from the valve housing and graphite wick packing is placed on the stem of the valve as shown in Fig. 11. This packing should be oiled before replacing the nut. It is not absolutely necessary to use this wick packing. A very good substitute is a strand of hemp rope or a strand from a cotton clothes line. When repacking a valve that has been in service, remove all the old packing from the packing nut and from around the stem.

Grinding a Leaky Valve.—Leaky valves are more generally caused by pipe scale or coarse grit getting lodged on the valve and cutting the seat so a leak occurs. If the valve seats are brass, this leak can be stopped by regrinding the valve and seat as shown in Fig. 12. The valve body nut is unscrewed from the valve body and an inspection is made of the valve and seat to determine the cause of the leak. If the valve needs regarding, this can easily be seen by the uneven seat contact lines on the valve.

COMPOSITION VALVE DISC OFTEN USED

Using a Valve Grinding Compound.—The same grinding compound is used on this job as is used for grinding engine valves. Place a little of the compound on the valve as shown in Fig. 13. The valve is then placed in contact with the seat and the operation of grinding is ready to be performed. There are a good many valves on the market that are provided with composition disc. The composition disc comes in either soft or hard grades. Valve discs are also made from copper. Soft disc valves are used for cold water and the hard discs for steam and hot water. If these discs wear out, they must be replaced.

Grinding the Valve.—As shown in Fig. 14, pressure is applied to the valve and with a twisting motion the valve and seat are ground to a seating fit. Use the coarse grinding paste first and as the valve gains a good seat, finish with the fine paste. It is good practice to inspect the valve and seat during this operation. When the seating surface shows up with an even ground surface, the job is completed. Before reassembling the valve it should be washed in gasoline to insure the removal of all of the abrasive material. This sectional view gives a very good idea of the construction of the standard globe valve.

LEFT HAND DIES UNNECESSARY IF UNION IS USED

The Use of the Union.—The union used on this job is known to the trade as a "lip union." It is one of the most common of the all-malleable iron union and requires a gasket. In planning a job as shown in Fig. 15, if a union was not used, it would be necessary to use right and left hand threaded fittings and pipes. This always complicates the situation for the reason that it is very difficult to fit up the right and left hand fittings. Also left hand set of dies would be required. The using of a union therefore is the tradesman method of taking care of an assembly of pipes such as shown.

Gasket Cutting for Union.—When fitting up this style of union on a job, it is necessary to supply a gasket. These are usually made on the job when required. The gaskets on lines not exceeding 160 pounds pressure for steam and water are usually made from $\frac{1}{16}$-inch wire insertion rubber; for lower pressure canvas insertion black or red rubber packing material is generally used.

GASKET-CUTTING SIMPLE TRICK

The cutting of a gasket for a union, as shown in Fig. 16, is made very simple by following the suggestion as given in the view. Place the gasket material on the male end of the union and with a light ball peen hammer cut the rubber to the shape desired. This is a quicker method than the laying out of the gasket and cutting it to shape with a pocket knife. A completed gasket is shown in Fig. 17, being put in place. Notice how even the outline is cut by this process.

The Use of the Street Ell.—This fitting eliminates the use of a running nipple and is used considerably on pipe work. The advantage of a fitting of this kind can be seen in Fig. 18. Several of the more common fittings are shown in use. In this view the combination monkey and pipe wrench is shown. It can be used to tighten up the pipe joints as well as the nut on the union.

Advantage can be taken of cost and time when the styles and uses of pipe fittings are known at the time it is desired to install or repair pipe work on the clay plant.

Referendum Shows Sales Tax Undesirable

An almost unanimous demand for repeal of the excess-profits tax has been made by the membership of the Chamber of Commerce of the United States in a national referendum vote, the result of which was made public at Washington recently. The ballot was taken on a report of the Chamber's Committee on Taxation advancing fifteen proposals for changes in the present method of federal tax levies.

Altho the committee recommended substitutes for the excess-profits tax, the vote of the Chamber's membership on these proposals was not conclusive. A considerable majority voted against an increase in income taxes, proposed as a means of substituting some of the revenues derived from the excess-profits tax, and at the same time there was a majority vote against any form of sales tax, suggested both as a substitute for and in addition to other forms of tax.

The vote makes it clear that business men are united in their view that the excess-profits tax hampers business operations and retards the progress of readjustment. Among the objections to the tax as pointed out by the Committee are that it produces inequities; that it is difficult of administration; that price reductions will decrease revenues from this source, and that the tax encourages extravagance.

A striking reaction was shown in the vote against increasing income taxes. It was obvious to the voters that such increases would fall on the middle class of incomes, since little more can be derived from the smaller incomes and because taxes already are so high on the larger incomes that those receiving large incomes are investing in tax-free securities and thus defeating the purpose of the tax.

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Construction Moving at More Rapid Pace

Building activity has proceeded at a greater rate during the first two months of this year than during the first two months of 1919, according to statistics compiled by the F. W. Dodge Co. Conditions in the opening months of 1919 were very similar to those prevailing at present.

Total contracts awarded from January 1 to March 1, 1921, in the twenty-five Northeastern States of the country amounted to $212,437,000, compared with $152,784,000 for the first two months of 1919.

The total contracts awarded in February, 1921, was slightly less than in the preceding month, but in view of the fact that February was shorter than January by three business days, the same rate of activity has been maintained during the two months. January contracts amounted to $111,648,000; February contracts $100,789,000.

Among the contracts awarded in February, residential building took the lead, representing 36 per cent. of the total, or $36,294,000. Public works and utilities amounted to $18,609,000, or 18 per cent. of the total; business buildings, $17,070,000, or 17 per cent. of the total; and industrial buildings, $9,037,000, or 9 per cent. of the total.

Contemplated new work was reported in February to the amount of $561,342,000. It should be explained that this includes $200,000,000 for the proposed bridge over the Hudson River, a project which will doubtless take a long time to mature. Nevertheless, even if this large project be omitted, the remainder of the contemplated work has been exceeded in only one month since last June.

Contracts awarded in the New England States in February amounted to $7,206,000, which was slightly less than the January figure. Altho both January and February have shown low figures in this district, the year has started off rather better there than 1919 did.

In New York State and Northern New Jersey, February building contracts amounted to $21,300,000, which was practically the same as the figure for January. During the first two months of the year, the total contracts amounted to $42,776,000, compared with $25,392,000 for the first two months of 1919.

Contracts let during February in Eastern Pennsylvania, Southern New Jersey, Deleware, Maryland, District of Columbia and Virginia amounted to $16,367,000, an increase of 17 per cent. over January. The first two months of this year have maintained a lead of five millions over the first two months of 1919.

Contracts awarded during February in Western Pennsylvania, West Virginia, Ohio, Kentucky and Tennessee, amounted to $20,315,000, which was seven millions less than the January figure.

The total awards for January and February amounted to $47,998,000, compared with $20,131,000 for the first two months of 1919.

February building contracts in the Central West (including Illinois, Iowa, Indiana, Wisconsin, Michigan, Missouri and portions of Eastern Kansas and Nebraska) amounted to $32,591,000, which was slightly under the January figure. The total for the first two months of 1921 is practically the same as the total for the two opening months of 1919.

February building contracts in Minnesota and North and South Dakota amounted to $3,010,000, which was somewhat less than the January figure. Total awards for the first two months of the year amounted to $7,592,000, compared with $2,181,000 for the first two months of 1919.

The general trend of work in prospect is distinctly favorable to residence construction and public works.

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Refractories Men Want Uniform Cost System

Organization of the Refractories Accountants Institute was announced at the meeting of the Refractories Manufacturers' Association at Pittsburgh, Pa., recently. The chief function of the institute is to provide cost data which will make is possible for every refractories manufacturer to know the cost of his product. Some time ago the association employed a New York firm of efficiency experts to evolve a uniform system of cost accounting applicable to the manufacture of refractories. The failure of the members of the association to adopt the system proposed led to the organization of the Refractories Accountants Institute.

Membership in the institute is restricted to those directly connected with the accounting departments in the offices of members of the Refractories Manufacturers' Association.

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Greatly Restrict Immigration

The Senate Immigration Committee of February 9 rejected the total exclusion bill as passed by the House and tentatively agreed to restrict immigration to five per cent. of persons of each nationality resident in this country according to the last census, but exempting from provisions of the proposed law citizens of Japan, China, Canada, Newfoundland, Cuba, Mexico and Central and South America.

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Paving Brick Conquers Wood Block

The City of Reading, Pa., recently decided to build a new bridge. The paving of this bridge was to be a new design of wood block, superior to other paving material. Everything was set for the erection to begin, when lo, and behold! A large number of citizens who will be obliged to use the bridge when it is completed, submitted a petition asking that the specifications be changed and vitrified brick used in the construction of the roadway over the bridge. The county commissioners have changed the order and brick has triumphed over wood block.

ONTARIO CLAYWORKERS ENJOY SPLENDID PROGRAM

Proposed Increase in Price of Gas Would Effect Tremendous Increase in Cost of Production, Committee Reports

THE WESTERN ONTARIO CLAYWORKERS' ASSOCIATION held its 24th annual convention in the Chamber of Commerce, Chatham, Ont., on Tuesday, Wednesday and Thursday, March 1, 2 and 3. Over sixty delegates were present for the convention, and interesting and instructive addresses were delivered by speakers from the United States and Canada. The choice of Chatham as the seat for this year's convention added interest to the event, owing to the fight the association is putting up to obtain a permit for the use of gas in the manufacture of clay products.

DISCUSS STANDARDIZED COST SHEET

The convention opened at 10 o'clock Tuesday morning with a prayer by the Rev. R. M. J. Perkins of Christ Church, of Chatham. President Wm. McCredie, of Lyons, Ont., in the president's annual opening address extended a cordial greeting to the pleasing number of delegates present. In the course of his report of the year's work of the association he referred to the present uncertain state of the clayworkers' market, and urged the delegates to work together for the benfit of the whole. He stated that the high prices of labor and material had caused the present depletion of production, but hoped that matters would adjust themselves in the very near future.

In a short address, vice-president Alfred Wehlann, of Cairo, Ont., voiced the delegates' appreciation of the worthy manner in which the president had handled the association's affairs for the year.

C. S. Parker, of London, Ont., a past president of the association gave a short address in which he urged the standardization of a cost sheet for summer and winter work at the kilns as a benefit for members of the association. He pointed out the necessity of this in regard to making out income tax reports, as the government required the actual cost of operation, et cetera. At the conclusion of the address the following committee was appointed to report on the adoption of a standard cost sheet for the association: C. S. Parker, chairman; H. H. Hallatt, of Tilbury; J. M. Dillon, of Port Dover, and Secretary G. E. Armstrong, of Fletcher.

The appointment of Messrs. Montgomery and Reid as auditors of the convention concluded the morning session.

REPORT OF FUEL COMMITTEE

The afternoon session opened with a short address by Mayor Fred H. Brisco, of Chatham, in which he extended the freedom of the city and wished the association every success.

C. S. Parker, of London, chairman of the committee on fuel, submitted a report of the committee's activities. It showed that the proposed increase in the price of gas would have a telling effect on the cost of production and the extension of the industry. The report also stated that the average increase in price of gas was thirty per cent., but in some cases reached as high as 230 per cent.

A paper on "Pyrometry" was given by Chas. Englehard, of New York. A. D. Quinn, of Philadelphia, gave an interesting

The Convention of Ontario Clay Men Must Have Been Entirely Successful, Judging by the Smiling Faces of the Delegates. Over Forty Members of the Clay Industry Attended.

address on "Power Transmission and Care of Belting," which was followed by a discussion led by S. R. Walsh.

At 4:30 p. m. the delegates adjourned to the Griffin Theatre where lantern slides and motion pictures were shown depicting the working of steam shovels, self feeding loaders, portable belt conveyors, excavating machinery and railroad tunnel kilns. The "preparation of clays and shales in modern clay products factories" and other films were also shown.

The Russell Engineering Co., St. Louis, Mo.; Thew Shovel Co., Lorain, Ohio; Barber Greene Co., Aurora, Ill.; Stevenson Co., Wellsville, Ohio; and the Parsons Co., Newton, Ohio supplied several of the slides and films.

TECHNICAL PAPERS READ AND DISCUSSED

President McCredie presided at the Wednesday morning session. Several papers were read and each followed by interested discussion.

The first address "Air Conditioning and Drying Equipment" was delivered by Herman Worsham of the Carrier Engineering Corporation, of New York.

J. B. Applegate of Proctor & Schwartz, Inc., Philadelphia, gave a paper on "Drying of Clay Products by Scientific Methods."

"The Use of a Small Power Shovel in Clay Pits" was the subject of a paper by W. S. Ramsay of the Bay City Dredge Works, Bay City, Mich.

J. J. Munagan of the Brown Instrument Co., Philadelphia, gave an instructive talk on "The Use of Pyrometers for Controlling Kiln Temperatures."

WEDNESDAY AFTERNOON SESSION

An interesting paper from Prof. C. T. Curelly of the Royal Ontario Museum of Archæology was read before the convention by one of the delegates. The professor was unfortunately unable to be present for his paper "The History of the Brick Industry from Earliest Times," scheduled as the first paper of the afternoon session.

A. W. Buckingham of the Russell Engineering Co., St. Louis, gave an address on "The Firing of Clay Products in Continuous Tunnel Kilns." The speaker went into the various advantages of the tunnel kiln, and his subject proved of great interest to his hearers.

"Belt Fasteners" afforded the subject of an address delivered by E. A. Rudin of the Crescent Belt Fastener Co., of Toronto. This address concluded the second day's session, and the convention adjourned to meet at the Garner House, at 7 p. m., for the annual banquet.

PRESIDENT REMINISCENT AT BANQUET

M. M. Maxwell, manager of the Chatham Chamber of Commerce, presided as chairman at the banquet. Solos were rendered by a male quartet, and Capt. Dingman, a former member of the Dumbells Concert Troupe, entertained with humorous skits and readings.

President Wm. McCredie was the speaker of the evening. Being honored as the oldest member engaged in the craft, he dwelt in reminiscent mood on the interval between 1871, when he first entered the work, and the present. After comparing the old and new methods he urged the members to keep at the industry, as they were learning new things and meeting with successes every day.

Mr. Haig of Des Moines, Ia., spoke of the cordial relations existing between Canada and the United States.

Geo. W. Wands, president of the Chatham Chamber of Commerce, paid tribute to the association and pointed out the need of the clayworkers' cooperation in the preparation of the county roads in the Good Roads Campaign.

Mr. Babcock, of Bay City, Mich., and J. D. (Oakey) Ellwood, Chatham, made short addresses, while S. R. Welsh, of London, responded to the special toast "The Ladies."

Mr. Ferguson, a student of the O. A. C., Guelph, Ont., gave a splendid address on the work of the college.

C. S. Parker, of London, and the chairman, Mr. Maxwell, gave the closing addresses in which Mr. Maxwell invited the clayworkers to again meet in Chatham.

INCOME TAX SHEETS EXPLAINED

"Gravity Conveyors in Clay Products Factories" was the first paper of the Thursday morning session, which was delivered by Mr. T. Sylvester, of the Mathews Gravity Carrier Co., Ltd., of Port Hope, Ont.

J. W. Plewes, London, of the income tax department, gave an address on "Income, Sales and Business Profits Taxes." He illustrated his talk with maps and charts, and the 1921 income tax sheets. Mr. Plewes gave a little time to the explanation of the tax sheets and the manner of filling them in.

"Publicity" was the subject of a very pertinent talk delivered by J. M. Dillon, of the Erie Clay Products, Ltd., Port Dover, Ont.

F. L. Ferguson, B. S. A., of the O. A. C., Guelph, Ont., addressed the convention on "Clay Tile and Farm Drainage." His close study of the subject afforded the basis of an exceptionally interesting address.

ANNUAL ELECTION OF OFFICERS

The Thursday afternoon and final session of the association was given over to the completion of unfinished business and the election of officers.

Alfred Wehlann, of Cairo, Ont., was unanimously chosen president of the association for the ensuing year; other officers elected were: First vice-president, H. H. Hallatt, of Tilbury; second vice-president, R. T. McDonald, of Brigden; third vice-president, J. E. Reid, of Tilbury; secretary-treasurer, G. E. Armstrong, of Fletcher, Ont.

The following special committee was appointed to look after the fuel situation: C. S. Parker, of London, chairman; with A. Wehlann, of Cairo, H. H. Hallatt, of Tilbury, and G. E. Armstrong, of Fletcher, as the other members. Power was given the executive to appoint the committees on the next convention. All other committees remain standing.

MAKE EX-PRESIDENT LIFE MEMBER

The retiring president, Wm. McCredie, of Lyons, was made a life member, and all were agreed that the past year of the association had greatly benefited by his tenure of office. Mr. McCredie has the distinction of being in the clay products business for fifty years and one of the oldest members of the association.

Power was given the executive to name the place of meeting for next year's convention, but it was thought probable that the invitation of the Chamber of Commerce to meet in Chatham would be accepted.

Expressions of appreciation for the courteous manner in which they had been received in Chatham were made by the clayworkers. Comment was freely made on the adaptability of the city as a convention city, and they paid special tribute to the work of the Chamber of Commerce in making this possible.

The session closed with the passing of votes of thanks to the different institutions which had assisted in furthering the success of the convention.

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Downward Trend in Building Costs Shown

Convincing evidence of the marked downward trend of building costs since the high peak was established last autumn, is shown by a comparison of the bids submitted to the New York City Board of Education on February 14 for the construction of a public school, with those offered on the same plans and specifications in September, 1920.

A comparison of the bids that were made by various construction companies on September 9, 1920, and on February 14, show at a glance that there is a difference of $74,828 between the low bidders now and last September, which represents the saving to the city on this particular operation if the contracts are awarded on this bidding. The actual difference between the low bidders at these lettings amounts to more than twenty-five per cent. of the estimate of last September, and this figure is generally considered to be a fair average of the reduction of construction costs in the metropolitan district since the high level of 1920.

Taking as a basis of comparison the estimates submitted by the T. A. Clarke Co., one of the contractors, there is a difference in favor of the city of $57,000, which is approximately sixteen per cent. under the bid of September 9, 1920. Engineers in the office of the T. A. Clarke Co. state that their figures are conservative and that according to their computations the sixteen per cent. reduction is divided as follows: Ten per cent. representing the reduced cost of building materials and supplies, and the remaining six per cent. made possible because of the increased efficiency of labor.

Manufacturers' and Dealers' Ass'n. to Work Together in Brick Promotion Campaign

Plans for joining hands with the general building supplies dealer, for the promotion of more brick house construction, were discussed by members of the executive committee of the Ohio Builders Supply Association at Toledo, Ohio, this week. One of the principal speakers was Ralph P. Stoddard, secretary-manager, the Common Brick Manufacturers' Association of America. Mr. Stoddard went into detail to show how the brick manufacturers' organization, in cooperating with the building supply dealer will not merely sell brick, but will be helping the building supply dealer to do more business.

More brick houses must be built, according to Mr. Stoddard, to make for greater distribution of common brick, but in accomplishing this the building supply dealer who works to this end will sell more of other materials, because brick house construction requires more materials of different kinds than does construction with other building material.

So a comprehensive campaign for the promotion of brick houses will start April 12, when the representatives of both the Ohio Builders Supply Association and the common brick manufacturers' organization meet at Hotel Deshler, Columbus, on that date.

To further the movement, Secretary Stoddard will prepare a program showing how the brick manufacturers' organization will aid this movement. There will be copies of building codes, information on how the hollow brick wall is built, literature on brick house construction for distribution among the building supply dealers, contractors and prospective home builders—in fact every possible piece of information that will place the building supply dealer in a position to reap the biggest possible business when the home building movement, sure to start sooner or later, gets under way.

Meanwhile, tho there is no definite thought toward linking up this plan with a second program, the word has gone forth to all members of the Common Brick Manufacturers' Association to seek for publicity in their local daily newspapers. It is proposed to make a certain day, at none too distant a date, Newspapermen's Day in every brick plant thruout the country. The object will be not so much to try to influence newspaper reporters and editors into printing news of brick or brick construction, but to show the scribes just what brick is made of and the numerous processes thru which it goes before it becomes part of a permanent dwelling or other building.

"When one is familiar with any subject or thing he is generally pleased with that knowledge," says Secretary Stoddard. "Certainly he is not likely to be afraid of it. It is to be hoped that brick manufacturers will unite in invitations to the newspaper fraternity to visit the plants. Let the newspapermen become familiar with brick and brick manufacture. It will make friends of an important group that can be of great value to the trade, and still greater value to their different communities in educating people into permanent house construction."

Straus & Co. to Aid Builders

An announcement was made on March 17 by S. W. Straus & Co., widely known brokers in real estate mortgages, to the effect that they would loan money at six per cent. interest to individuals and corporations for the erection of two and three flat buildings to be sold at actual values on terms to suit the buyers as a follow-up of their plan to assist the housing situation by the erection of additional homes.

The week before this concern announced that they would loan money at six per cent. to corporations for the erection of apartment buildings, and according to the concern, because of the vast response they have extended the plan to take in two and three flat buildings for the small builder. The announcement in part reads as follows:

"S. W. Straus & Co. advises and urges the resumption of all forms of building construction on a broad scale—the erection of public buildings, churches, hospitals and institutions of all kinds, construction of highways, bridges, etc., as well as the erection of buildings needed for housing and business.

"It is, in our opinion, good judgment to build now. We speak from facts obtained in a nation-wide survey, which reveals a shortage of at least 1,000,000 homes and reduced stocks in the hands of manufacturers and dealers in building supplies, that presage exhaustion and higher prices if anything like real activity gets under way. History will repeat itself. After a period of inaction, action follows. Then prices are bound to advance because of accumulated demand.

"Recognizing that an emergency exists, S. W. Straus & Co. will depart temporarily from its policy to the extent of making loans in amounts of $200,000 and upward to corporations and individuals of high credit rating, the proceeds to be used for construction in groups of modern two and three-room flats to be sold at actual values to suit the buyer."

Geological Survey Publishes Interesting Map

The United States Geological Survey, Department of the Interior, has just published a map of the oil and gas fields of Kansas. This map shows the township net, county boundaries, railroads, drainage lines and principal towns and cities. The oil fields are outlined in green and the gas fields in red, scattered occurrences of oil or of gas that are not of sufficient importance to be classified as fields are plainly indicated, the pipe lines are shown in a distinctive color, the locations of refineries are indicated, and the names of the principal fields are given.

This map, which should be of extraordinary value to producers, refiners, geologists and clay manufacturers, interested in the Kansas fields, was compiled under the direction of G. B. Richardson of the United States Geological Survey, and was made possible by the cooperation of many of the producing companies and geologists whose interests lie in Kansas. The map is sold for 50 cents a copy and may be obtained from the Director of the United States Geological Survey, Washington, D. C.

The BUILDING SITUATION *in the* EAST

THE TREND in construction operations continues upwards in the important eastern districts, and each week is bringing marked evidence of increasing activities. Reports from architects and contractors show significant gains in volume and scope of work, and what is more, a strong indication that housing operations are at last coming to the front. Construction of this latter character bids fair to occupy a considerable share of attention in the coming spring and summer seasons.

Labor in the building industry is evidently becoming reconciled to the fact that lower costs must prevail if construction activities are to go ahead with anything like the desired speed, and troubles thru lower wage scales are of spasmodic and spotted nature. There is no concerted movement on the part of bricklayers, carpenters and others in the principal branches of the trade to resist the downward change.

CONSTRUCTION NOT VERY ACTIVE

Building material manufacturers and dealers are still experiencing decreased trade, and it will be after the turn of April when these branches of trade commence to feel the effects of the quickening trend in construction affairs. Right now, it is architects and engineers, as well estimating departments of building contracting offices, who are enjoying increased orders and inquiries for forthcoming operations.

The situation is being assisted by a general firmness in price quotations, impressing the prospective builder with the fact that it is, or will be of no benefit to defer construction, that material quotations are just about at the point they will remain until freight rates, labor and other factors of production and distribution are lower.

A brief review of conditions in the different eastern districts is set forth in the following:

New England: Activities in the construction industry in and around Boston are noticeably on the increase, particularly with regard to smaller operations and alterations. Industrial building has reached a low point as pertains to new structures, altho projected work in this line has an encouraging aspect. The city has awarded contracts for the erection of a new three-story, brick municipal building on Central Avenue, to cost about $250,000. Various churches are going ahead too.

In other points of Massachusetts, as well as in Connecticut, greater attention is being given to factory work, and a number of important projects are coming to light. The Scovill Co., Waterbury, Conn., the American Woolen Co. and the Chapman Valve Co., Springfield, Mass., are planning for the construction of industrial buildings.

STABILITY IN MATERIAL PRICES

Price quotations show no change in the Boston district. New York brick is being quoted by local dealers at $28 per thousand, delivered, while Connecticut production is being turned at the recently established $32 level. Face brick holds at $50 and $60 per thousand, according to selection, rough texture varieties bringing the latter figure. Fire clay is in fairly active call at $30 a ton; fire brick stand at $80 and $90 per thousand, delivered. Different burned clay products, such as flue lining, drain tile, wall coping, partition blocks, etc., are well stocked by local dealers, but are operating under appreciably reduced demand. Prices of these commodities hold at the same figures as recently quoted.

Building contractors at Worcester, Mass., have arranged for a wage reduction of twenty per cent., affecting all branches of the trade. Only minor protests have come from the men in connection with negotiations for the change, and it is likely that the reduced schedule will be made operative at an early date. The Master Builders' Association at Lawrence, Mass., has also announced a similar reduction, but the local labor organizations have refused to agree to the new scale and no definite action has been taken up to the present time. It is expected that the reduced schedule will be made effective on April 1.

GOTHAM EXPERIENCING HOME BUILDING MOVEMENT

New York: The sentiment in the building industry in the New York district is that the long-expected turn in affairs has come, and this is substantiated by the pronounced activity during the past fortnight. Moreover, the revival is taking on an aspect of a home-building movement, if projected work in the apartment house line can be assumed as any indication. The tax exemption ordinance, passed by the city and referred to in the last issue of *Brick and Clay Record*, may be held as responsible for the increased operations in housing, and speculative money is now becoming interested in the possibilities offered for investment in reasonably-priced apartments and tenements.

Building operations in Manhattan Borough covered the filing of plans for thirty-three new buildings in February, with total valuation of $8,861,360, as against plans for twenty-eight new buildings, valued at $9,933,500 in the corresponding month of last year. No new plans were filed for dwellings, school houses or hospitals during the month.

BRICK MARKET FIRM

There is increasing firmness in the New York brick market. Expected building construction in the Greater City has given a tone of real stability to prevailing prices, and it is unlikely that there will be any lowering of present figures for some time to come, at least until 1920 production, handled under high costs, is disposed of. Good hard common is selling at $17 and $18 per thousand, with less desirable Hudson River stock available at $15 and $16; this market range is evidently broad enough for local producers, for there is little or no attempt to shade prices to make sales.

The past fortnight has brought about a noticeable increase in volume of inquiries, and while immediate sales are far from satisfactory, yet all indications point to far greater distribution in a few weeks to come. Reserves in the wholesale trade have dropped to about ten or twelve barges, as against approximately twice this amount, as recorded in recent weeks. Up-state plants are now viewing the situation with more satisfaction, and unless conditions change suddenly, production can be anticipated at the different yards early in the spring, with general increase in volume of output.

TILE, FACE AND FIRE BRICK MORE ACTIVE

The call remains uniformly light for other burned clay products, as well as for other basic commodities, with price levels unchanged. Interior partition tile, face brick and fire brick rather enjoy the greatest demand, if it can be termed in this light. Hollow tile is quoted at $220 per thousand square feet, delivered for the 2-inch size, and $320 for 6-inch material. Fire brick holds at $75 and $80 per thousand, and face brick from $45 to $55 a thousand, depending upon selection.

The building material market at New York carries the most favorable aspects of good business during the forthcoming spring and summer seasons, and dealers, for the most part, are looking forward to this period with high hopes and expectations.

STATE LABOR SITUATION

Labor conditions at New York are of rather encouraging moment. Not only is the question of wages being forgotten in the effort to improve building operations, but men in a number of important branches of the industry are doing more work in the same number of hours. For instance, in the case of the bricklayers, it is a matter of record that 900 to 1,000, and even as high as 1,200 brick, on the average, are being laid by one man per day, as against a total of about 700 brick a year ago. The reason behind this increased efficiency is that there are more men than jobs, and considerable unemployment exists. There is a surplus of workmen in the mason, carpenter, structural steel and affiliated trades; in the line of plasterers, painters and electricians, the supply is quite equalized with the demand, while in the finishing lines, men are growing more and more available owing to the completion of projects that have carried thru the winter.

A little trouble is being encountered with bricklayers at Buffalo. On a city hospital job, non-union men have been given work at the rate of a dollar an hour, as against the union scale of $1.12½; protests have been made against the employment of the men, but with the sweeping sentiment for the "open shop" in this section, it is not likely that any contrary action will be taken. Union bricklayers are also making increased demand upon local contractors.

FACTORY CONSTRUCTION VERY SLIGHT

New Jersey: Construction operations show decided betterment at Newark and vicinity, and distinctly so in the line of housing work. Plans now being filed at the local building bureau cover numerous operations of this sort, some large, some small, but all counting in the long run. February building permits aggregated $1,074,606, as compared with $1,300,127 for the corresponding month of last year. The total, however, was enhanced by close to fifty per cent. by the filing of plans for a new three-story motion picture theatre for the Loew circuit to cost about $500,000. Factory work aggregated only $50,000 in this time, as against many times this sum in the 1920 period.

Newark architects are busy with plans for a number of brick apartments in the city, as well as in the suburban districts. Two-story houses are also assuming popularity, and considerable attention is being given along this line, with brick the favorite material for the structures. Ground will be broken at once for a four-story brick apartment at 12-14 Pennsylvania Avenue by Joseph Kruvant, estimated to cost about $60,000.

PRINCETON UNIVERSITY TO BUILD

Princeton University is arranging to resume its building program during the coming spring and a large number of important structures are proposed. The spring work will include a School of Architecture, to be located on the campus, and estimated to cost about $500,000; and four new dormitories, to be built in collegiate gothic style, and estimated to cost an equal sum.

The prices of burned clay products remain practically unchanged in the different important New Jersey cities. Common brick at Newark is selling at $23 and $25, and at about the same levels at Paterson, Passaic and other points in this part of the state. The Trenton district holds to a $27 and $28 figure, for even tho yards are closed down thru slack demand, producers are not prone to turn 1920 production at less than cost and fair margin of profit. Face brick is selling from $40 to $55, with variation in quotations ranging from Colonials to popular rough texture, brown shade selections. Fire brick is selling at from $75 to $90 in this section, the extremes being evidenced in northern and southern New Jersey, respectively.

PHILADELPHIA SOMEWHAT BEHIND

Philadelphia: Construction operations continue at an uneven pace in this city, and the spring outlook is not viewed with quite the same encouragement as found in other neighboring large cities. It looks as tho Philadelphia was going to be a little backward in striking a gait for the rapidly approaching building seasons. Building work reached a total of $1,345,170 in February, according to valuation of plans filed with the building department, or a total decrease of $5,562,920, as compared with the corresponding month of 1920. This is a marked difference, to be sure, and will take more than present lethargic spirit to surmount. A ray of hope, however, is evidenced in the fact that the February total is $220,730 in excess of January figures.

That attention will be given to necessary housing in the Quaker City during the coming months is indicated by an operation of this character now about to be placed under way at Sixty-fifth Street and Chester Avenue; Herman F. Kettman, a local builder, has perfected plans for the construction of thirty-seven two-story brick dwellings at this location, with cost, exclusive of site, estimated at close to $190,000.

BUILDING EXPOSITION

Everything is ready for the third annual Real Estate and Building Exposition to be held under the auspices of the Philadelphia Real Estate Board at the First Regiment Armory, commencing March 28. All space has been allotted, and a fine representation in all branches of the industry is guaranteed. At the exposition of a year ago, the attendance reached about 40,000, and an increased number is expected at the 1921 show. Building materials, including burned clay products, will receive an important share of attention.

As to be expected, orders for construction materials at the present time are far from satisfactory to manufacturers and dealers. The call for products of all kinds is light, and alterations and minor repair work are comprising the bulk of local demand. Common brick is selling at the same figure of $25; fire brick is quoted from $75 upwards, according to grade, and face brick from $39 to $55 in line with selection.

Wilmington: With the coming of the spring building season, it is encouraging to note that Wilmington, Del., after an entire winter of practically total inactivity in construction work, is making a move to go forward with the drift of affairs as found in other eastern cities. Contract has been let for a new six-story warehouse at Sixteenth and King Streets, and work will proceed at once; it will be of brick, 45x130 ft.; a hollow tile addition for Sunday school purposes, will be constructed by the Zion M. E. Church at Cecilton; and a new bank building will be erected at Georgetown by the Delaware Trust Co.

* * *

Reduced Demand for Fire Brick

Fire brick manufacturers are not in the best spirits over present business conditions. Demand is falling off and on the average plants are running about thirty-five to forty per cent. capacity while shipments approximate thirty per cent. In some instances manufacturers are stocking their product but most are not inclined to do this at present high prices.

A few plants are reporting no inquiries coming in but others say there is a slight demand for brick for repairing purposes with here and there a new operation demanding probably 500,000 brick. The United States Steel Corporation continues to curtail operations and as a result less refractories are used by this firm. Other large users are also cutting down and their requirements are not so heavy.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

POTTERY PRICE REDUCTION UNLIKELY

MANY INQUIRIES have come from the trade, asking for information as to whether there is likely to be a reduction in prices of pottery, and whether the factories are in any better condition to make prompt shipments than they have been for the past two years.

The writer has made a thoro investigation, interviewing a number of manufacturers, and they are practically unanimous in saying there can be no reduction in prices until there is a reduction in labor, materials, and fuel. The labor scale or agreement with the workman is signed to hold until October of 1921, and stocks of materials are on hand or contracted for at present high prices to practically cover needs for next year. Fuel is the highest in the history of the business, with little or no prospect of reduction.

INCREASES DURING 1920

One manufacturer turned to his cost records, and said, "From January 25, 1920, at which time an advance in prices went into effect, until September 15, when we were compelled to make the last advance, the increase in cost to us of the various items of labor, material, fuel, and etc., was as follows:

Ball Clays	16⅔ per cent.
China Clays	10 per cent.
Florida Clay	10 per cent.
Boracic Acid	7 per cent.
White Lead	16⅔ per cent.
Baskets	50 per cent.
Sagger Clays	50 per cent.
Spar	45 per cent.
Gas	30 per cent.
Coal	100 per cent.
Nails	100 per cent.
Straw	50 per cent.
Packages	33⅓ per cent.
Plaster	20 per cent.
Press Sacks	25 per cent.
Whiting	10 per cent.
Flint	15 per cent.
Cobalt	200 per cent.
Repairs Materials, including:	
Glass, Cement, Lumber, etc.	25 per cent.
Brooms	28 per cent.
Decal	30 per cent.
Turpentine	150 per cent.
Decal Size	100 per cent.
Bats, Props and Supplies	25 per cent.
Stilts and Pins	20 per cent.
Workers Boards and Ware Boxes	75 per cent.
Labor:	
Piece Work	19 per cent.
Common or Day (Estimating for inefficiency)	50 per cent.

COOPERATION FROM OPERATIVES NECESSARY BEFORE REDUCTION CAN BE EFFECTED

Another prominent manufacturer stated, "I can see no possible hope of a reduction in prices until we have some REAL co-operation from our workmen. We are at present operating from sixty to seventy per cent. of capacity, due largely to the fact that our employes do not want to and will not work full time, and as you well know, it costs more to produce goods, working on seventy per cent. capacity, than if the plant were operated full time. Then, again, there is an unusual amount of loss and waste, especially in our kiln placing, kiln drawing, and dipping departments, due to careless, indifferent workmanship. We used to think we had a frightful loss when a glost kiln would run twenty to twenty-five per cent. thirds and lump. Now it is an unusual occurrance for a pottery to get fifty per cent. of the kiln good enough to send to the decorating shop, and it has been known to run as low as thirty per cent. good and seventy per cent culls. This is one of the great problems of at least ninety per cent of the manufacturers in our line, and I know they are all making desperate efforts to remedy this condition, but it will never be fully corrected until such time as there are more workmen than jobs, and every workman knows he has to make good or give way to someone who will."

CONDITIONS WARRANT NO PRICE REDUCTIONS

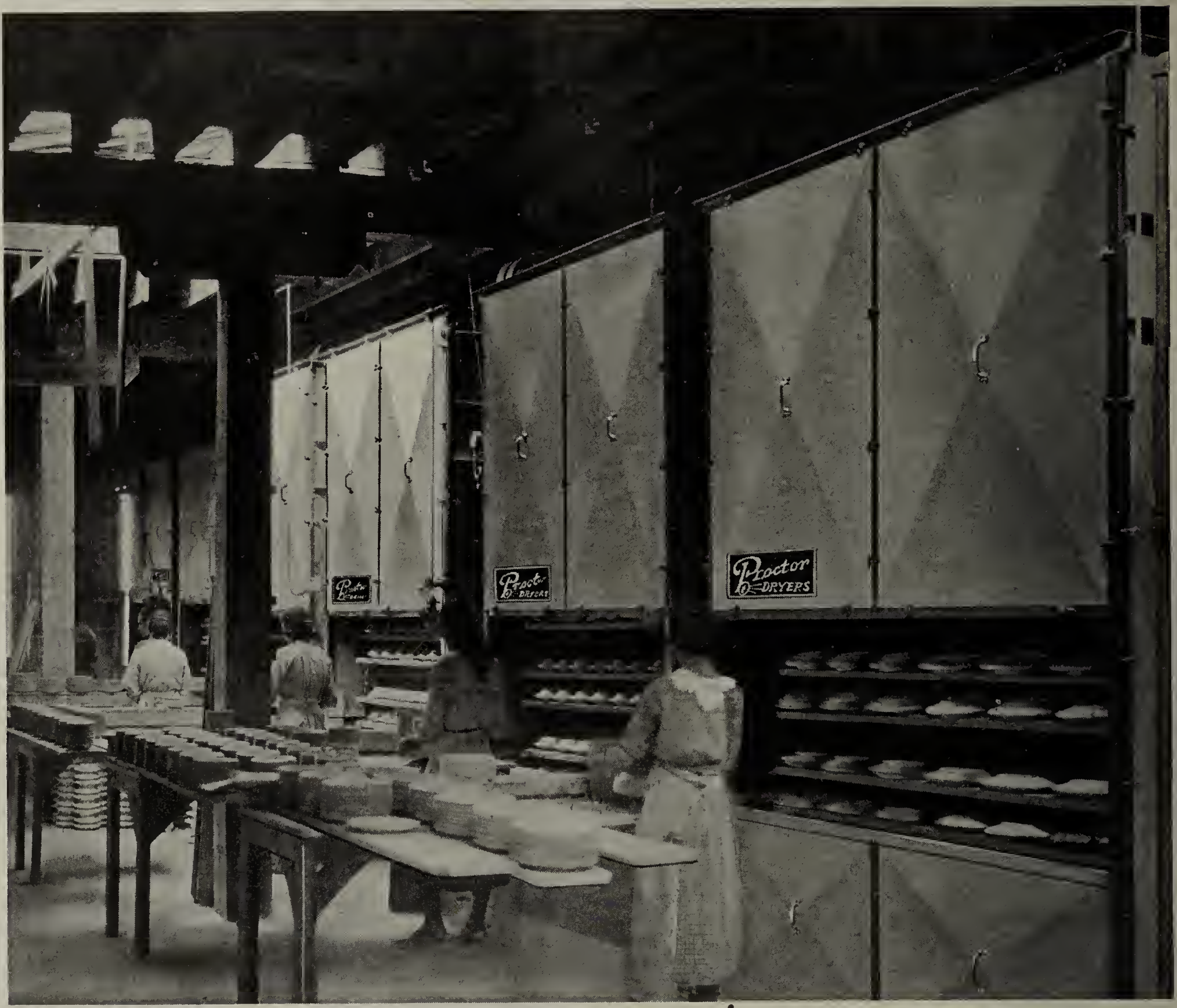
Another manufacturer tersely sums up the situation as follows: "As long as manufacturing costs are at high tide, and the shelves of the retailers, jobbers, and manufacturers are empty, and order files supplied with sufficient business to run them six months to a year, there will certainly be no reduction in prices."

Reports from all directions are that many factory bins are empty and orders on file to insure operation for months. Some factories are still working on 1919 orders, and, with possibly one or two exceptions, they all have unfilled orders on file taken as far back as January, 1920.

I asked about cancellations, and was told there had been a considerable amount of business canceled, but not nearly so much as was expected, considering the number of old orders on file. Most of the cancellations were really welcomed, and in some cases encouraged by the manufacturers, as it seemed the only way to get their order files in a workable shape.

To sum up, there really appears to be a great shortage of dishes in this country. Exports from England and Germany are very meager, with no immediate prospects of an increase. Manufacturing costs are exceedingly high, labor scarce and inefficient, and there is excessive loss in all departments.

Presented before the meeting of the United States Potters' Association at its meeting in December.



"Proctor" Automatic Stove Rooms (Delivery-End) installed at the Iroquois China Company, Syracuse, N. Y.

A compact efficient machine which supplies the most convenient, time-saving method of handling and drying. The ware is placed on an automatic conveyor by the jiggerman. It is carried through the machine and delivered at the other end in a uniformly dry condition. Here the ware is removed from the moulds. The moulds are then placed again on the conveyor which returns them through the dryer to the jiggerman. The ware is dried satisfactorily in about 90 minutes. The space required is exceedingly small. Great savings in steam are made, not only because steam is conserved in the dryer but also because all the ware can be dried the day it is made and there is no need to keep up steam over-night, as is necessary for old stove rooms.

By returning the moulds to the jiggerman through the dryer, they are in a uniform dry condition for refilling—they work better and last longer.

The "Proctor" Automatic Mangle

A thoroughly efficient machine which makes the drying of dipped ware a continuous automatic process, requiring only 30 minutes. Eliminates the finger marks due to the excessive handling necessary in using old types of mangles. Saves time, labor, space and steam; speeds production; works forcibly for better ware at lower cost.

PROCTOR & SCHWARTZ, Inc.
PHILADELPHIA
NEW YORK CHICAGO PITTSBURGH

Automatic Stove

BETTER GENERAL WARE

THROUGHOUT the general ware trade, the former demand for quick deliveries regardless of quality, has given way to careful buying and a growing insistence on the finer points of quality.

The dealer's attitude reflects accurately the will of a buyer's market—better ware. Therefore, every manufacturer should look into the full possibilities of improving his ware and put to work every factor for betterment.

A vitally important factor in attaining the highest possible quality in general ware, is the superior drying given by the "Proctor" Automatic Stove Room and the "Proctor" Automatic Mangle.

In these machines, the elements of drying (air, heat and moisture) are combined and controlled in a positive mechanical manner.

The "Proctor" Automatic Stove Room makes the user sure of perfectly uniform drying and shrinking of the green ware. Warping, dunting, and spalling are effectively prevented. Spoilage is reduced to a negligible quantity—a vast saving of ware over old stove room results.

The "Proctor" Automatic Mangle insures better glazed ware because there is no handling, scarring or finger-marking, from the time the ware leaves the dipper until it is delivered perfectly dry at the other end of the machine.

Highest quality drying, a reason sufficient in itself, is not the only reason that you should install "Proctor" machines. Every plant using them has made wonderful savings in time, labor, space and steam.

It is part of our service to study your plant conditions and point out the value of installing "Proctor" Dryers under our absolute guarantee of capacity, performance and results. Our engineers have the broadest ceramic drying experience and their service of information is gladly and freely given, without obligation.

Drastic Action Taken to Produce Better Ware

(*Brick and Clay Record,* February 22, 1921)

"* * * During the war period, the distributors of general ware were so anxious for stocks that they would accept anything that could be shipped, without reference to quality. The dealers urged the manufacturers to increase output and the workmen were urged to 'speed up'.

"Quality of course had to be sacrificed. Then, with the ending of the war demand continued heavy, the dealers continued to take any grade of ware that could be shipped, especially during the first three-quarters of 1920. Then the work started to turn.

"The dealers began to receive complaints from their customers, and in turn these were passed back to the manufacturers. * * *"

"Proctor"
DRYERS

oms and Mangles

Seek to Aid Needy Pottery Workers

The suggestion that $50,000 be set aside by the National Brotherhood of Operative Potters, to aid idle sanitary pottery workers in the eastern territory has been discussed at a special meeting of the executive committee of the Brotherhood at a meeting just concluded in Trenton, N. J. It has been pointed out that the plight of some of the idle sanitary workers is bordering upon an acute stage of want. Many sanitary potters have been idle from one to three months. It has been explained that if a loan of $50,000 was made from the "defense fund" of the organization without a vote of the trade, this would be in direct conflict with the constitution of the organization. The "defense" fund is said to be for specific use in the case of lockouts, labor disputes and other causes.

No date has been set, so it was said at the headquarters of the National Brotherhood of Operatives in East Liverpool, Ohio, for a joint conference between the Sanitary Potters Association and the Brotherhood officials when a proposed reduction of ten per cent. in wages in the sanitary pottery trade is to be discussed. The workers have refused to accept a voluntary reduction.

* * *

Bill Prohibits Use of Natural Gas

East Liverpool, Ohio, pottery manufacturers will put forth every effort possible to kill a bill now pending in the Ohio legislature which has for its object the elimination of the use of natural gas for industrial purposes and also limiting the amount available for domestic use. If passed, the bill would prove a severe blow to the pottery industry of Ohio, and at the same time create a hardship in homes. Columbiana County members in the legislature are opposed to the passage of the bill in any form.

* * *

Lecture on Manufacture of Rookwood

Announcement was recently made in Louisville, Ky., of a coming lecture before the Louisville Women's Club, by Mrs. Frederick Corl, who is to speak on "A Product of the Ohio Valley, Rookwood Pottery." The meeting is to be held under the auspices of the Art Committee, and moving pictures will be used for illustrating. This film known as "Magic Play," is in colors, and shows the methods used in making Rookwood. W. C. Kendrick & Sons, Louisville jewelers, have arranged to supply a stock of fine Rookwood articles, which will be exhibited at the meeting.

* * *

Making Strong Efforts to Produce Better Ware

"Whenever a mold in the clay shop shows the least sign of wear, it is immediately replaced by a new one," declared George B. Fowler, secretary of the Carrollton (Ohio) Pottery Co., in commenting upon the activity of this firm in the nation-wide campaign among manufacturing potters for better ware. "We are doing everything we possibly can to improve the quality of our product, and are not going to be satisfied by just making our goods 'good enough' to be passable. On the other hand we are going to make our ware the best that is possible to produce."

"We are schooling a score or more of new girls in our decorating department to do border work, as the heavy demand just now is for the best border patterns the potteries are marketing, and the demand for our decorated 'Superior' shape is now the greatest we've ever experienced." Shipments from this plant so far this year exceed all other January and February records since the plant was placed in operation. H. K. Connor is now in the eastern territory for this firm, and Mr. Fowler goes into the western field within a fortnight.

* * *

U. S. Pottery Can Lead the World

John H. Roth, head of the pottery jobbing firm of that name, with headquarters at Peoria, Ill., holds the opinion that there is no reason why American pottery products cannot dominate the world. Mr. Roth recently visited the East Liverpool, Ohio, market to anticipate his requirements for the current season.

"But this cannot be accomplished," Mr. Roth said, "without increasing the quality of the wares, which can be done easily, and also a reduction in prices. Every other American product is being reduced from war-price standards, and there is no reason why pottery should not follow suit. I do not mean a reduction that would strangle production, but a reasonable reduction under present conditions."

* * *

Cling to Superstitions in Pottery Making

It seems strange that in this enlightened age the art of pottery making should still be attended with superstition. Altho for the most part devout Catholics, the South Western Indians still retain some of their nature worshipping ceremonies, especially in the manufacture of their pottery ware. On the day on which she goes to dig her clay the Indian woman will indulge in no kind of levity, speak to no one on her way to the clay field, for if she should do so, her pottery will surely crumble and crack. Certain instruments only can be used to dig the clay and the first bit must be held up again to the earth with ceremony and with a prayer.

* * *

And Eggs Are So Expensive

August Jacobs, a pottery worker of East Liverpool, Ohio, consumed 26 raw eggs, we are told, then told a number of people of this feat. The story reached the ears of Max Kranz, a railroad engineer at Canton, and he came back with the report that he had swallowed 42 raw eggs in five minutes. Jacobs now wants to meet Kranz in a raw egg swallowing contest.

* * *

Expect Market To Hold Firm

Some buyers in the East Liverpool market who hesitated to place their orders in January are now coming into the market with mail orders. The trade has learned that the market is firm, and that it will continue at present levels for many months to come. There is of course less buying in large volume, but orders are of more frequency. When the manufacturers get caught up with a lot of back business, shipments will be more prompt on new specifications. This will come when the production of "thirds" is less, and a greater volume of ware can be sold as selected decorated merchandise.

* * *

Fires Almost All Generalware With Oil

The Potters Co-Operative Co. of East Liverpool, Ohio, is more than pleased with the character of ware oil-fired kilns produce. This company will soon have all of its eighteen kilns under this fuel in addition to its decorating kilns in both its No. 1 and No. 2 plants. The latter kilns in the No. 2 shop are being fired with oil, and excellent results are announced. This company has more generalware kilns under oil firing than any other concern of the kind in the United States.

* * *

Employes Strike Against Longer Hours

About fifty employes of the East End plant of the American Vitrified Products Co., in East Liverpool, Ohio, quit work when the company desired to increase the working time to ten hours per day, instead of nine hours, the previous working schedule. No reduction in wages was contemplated. Kiln setters, drawers and loaders continued at work. While the shop employes are idle of their own accord, the company is making a number of repairs to its property, and when these are completed, work will be resumed with either the old force or a new one.

* * *

Changes Position

E. H. LaRue, for some years office manager for the West End Pottery Co., at East Liverpool, Ohio, but more recently occupying a similar position with the Carrollton (Ohio) Pottery Co., has left the latter firm to go with the Albright China Co., of Carrollton, in a similar capacity. The latter company which is erecting a new plant at Scio, Ohio, will have it ready for operation probably by May. All business for the two plants will be looked after from the main office at Carrollton.

* * *

Decorating Dept. Heads Switch Positions

Miss Margaret Parker, for a number of years with the decorating department of the Taylor, Smith & Taylor Pottery Co., at Chester, W. Va., but more recently in charge of the decorating department of the Carrollton (Ohio) Pottery Co., is now in charge of the decorating department of the Steubenville (Ohio) Pottery Co. Joseph Durbin, who was manager of the decorating department at the Steubenville plant is now in charge of the same department at Carrollton, vacated by Miss Parker.

* * *

British Potters' Costs Rise Enormously

The Staffordshire (England) Pottery Manufacturers' Association has issued a recent statement showing the great increases in the cost of pottery manufacture in this country. As compared with pre-war figures, it is set forth that labor is 150 to 180 per cent. higher; fuel, 200 to 255 per cent. greater in cost; clay, 160 to 250 per cent.; cobalt, 230 to 566 per cent.; flint, glazes, etc., 180 to 330 per cent.; saggar marl and fire brick, 275 to 290 per cent.; and plaster, 200 per cent. In the matter of packing, it is noted that crates and straw are costing 230 to 425 per cent. more than in 1913, and cartage from 300 to 400 per cent.

* * *

Industrial Arts School Has New Head

At a meeting of the board of trustees of the School of Industrial Arts, Trenton, N. J., early in February, Frank S. Katzenbach, Jr., supreme court justice, was elected president of the board, succeeding John A. Campbell, head of the Trenton Potteries Co., who has occupied this position since 1914. Mr. Campbell is compelled to relinquish the office owing to the demands made upon his time by private business interests. Charles Howell Cook, head of the Cook Pottery Co., was re-elected vice-president of the board, and E. C. Stover, Trenton Potteries Co., re-elected treasurer. The institution stands high in ceramic work in this section, and a practical night class is now being operated on certain evenings of the week.

* * *

Now Running at Capacity

After working for one month on about fifty per cent. of possible capacity, the plant of the Owen China Co., at Minerva, Ohio, has started on full time. New business is more plentiful. The firm is now producing about eight bisque and fourteen glost kilns every two weeks.

* * *

Aim for Greater Efficiency and Capacity

The Perth Amboy Tile Co., Perth Amboy, N. J., is making a number of additions and improvements in its plant for greater efficiency in production, as well as increased capacity in certain departments. It is expected to have the work completed by summer, including the installation of necessary equipment. August Staudt, head of the company, is giving personal attention to the new work, as well as general production. The company is busy and has secured a number of interesting contracts for its well known floor tile and ceramics.

* * *

U. S. Feldspar Co. to Build New Plant

The Chamber of Commerce of Wellsville, Ohio, has withdrawn its invitation extended to the United States Feldspar Co. of East Liverpool, Ohio, to locate its new plant there. Thomas H. Sant, the well known clay broker of East Liverpool, and Lawrence Cawood, head of the Patterson Foundry and Machine Co., are the principals in the company. The plant was formerly located in East Liverpool, but was destroyed by fire. It is likely the company will select a location in the East Liverpool district within the next few weeks.

* * *

Will Build New Pottery Plant

The Standard Sanitary Mfg. Co., Louisville, Ky., division, expects to start work very shortly on its new pottery and glassware plant in connection with its plumbing supply producing plant, and hopes to be able to complete the building and have the plant in operation sometime in June. The plant will cost between $80,000 and $100,000.

* * *

Complete First Unit of 32 Kiln Plant

Work on the big pottery plant at Merced, Cal., to be operated by the California Pottery Co., is proceeding rapidly and four of the kilns will be ready for production early in April. This will be the first unit of a thirty-two kiln plant. Everything in the pottery, tile and pipe line will be manufactured there and the company will have a payroll of 300 men when operations are in full swing.

* * *

Organize Feldspar Company

The Wheeling Feldspar Co. has opened offices in the Board of Trade Building at Wheeling, W. Va., having just been formed with a capital stock of $50,000. The incorporators are Dr. W. E. H. Caldwell, Dr. John McColl, H. C. Whitaker, Fred Cox, C. R. Cox. This new company will make its operating plant in Ontario, Canada.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Sanding of Brick Settings

It is necessary to pour sand between the successive rows of set brick, in order to prevent the sticking together of the brick. But this result is not attained if a sand of bad quality is used. It even sometimes occurs that the sand brings on precisely the trouble that it was intended to avoid. Many sands, indeed, act as fluxes on account of the impurities they contain. This is especially obvious in a kiln in which the brick stick together and show signs of overburning, the softening point not having been reached.

In the burning of certain varieties of brick, as face brick or paving brick, it is necessary to get high temperature, and the product has to stay smooth and retain its regular shape. The use of sand of good quality and the sanding of the brick properly performed, enables the manufacturer to obtain the required temperature and the goods are in good condition.

Since it is the purpose to prevent the contact between the brick, the layer of sand spread between the brick must be uniform in thickness. If the sand is removed from but a portion of the contact surface of the products, and if it permits contact between the edges and the corners, its usefulness is almost worthless, as is obvious, since one will be required to break the sticking brick in trying to separate them.

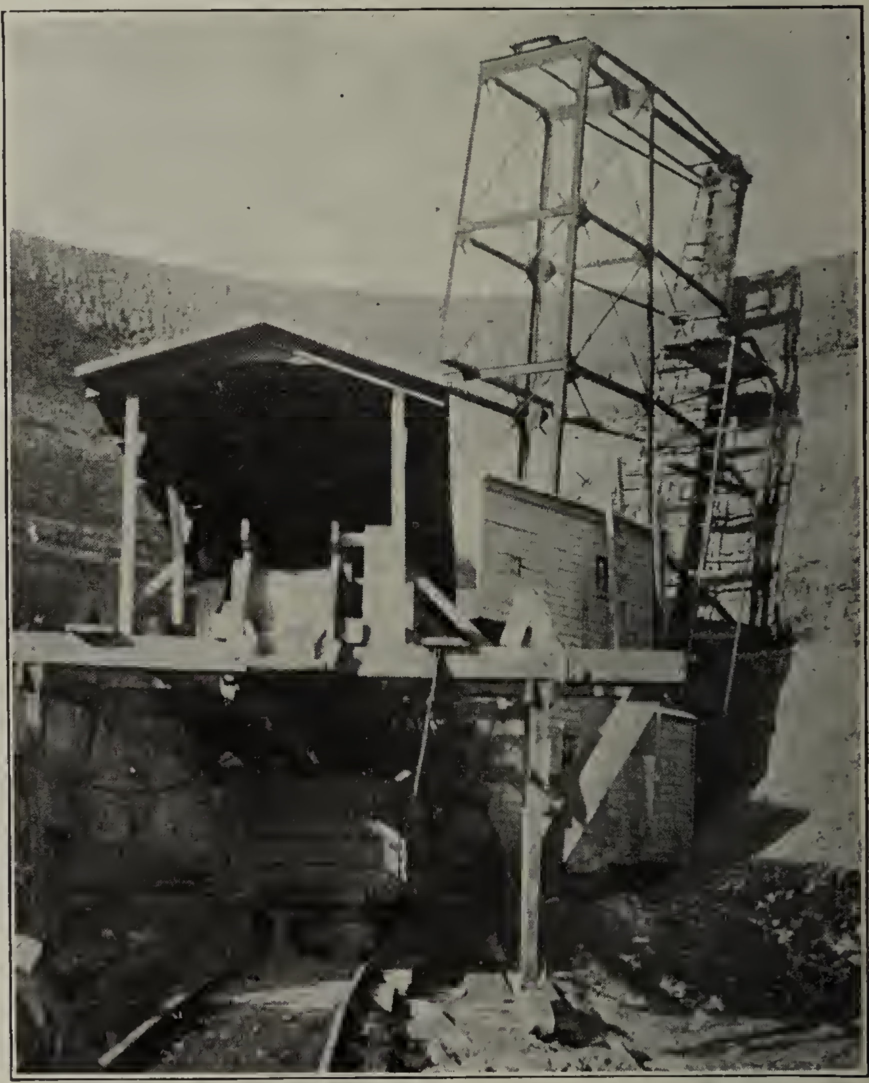
The best thing to do is to use a kind of sand, the quality of which you are familiar with and spread it by means of a mechanical distributor, that is to say, by sprinkling, in order to insure the proper thickness and regularity of distribution of the sand on the layers of the brick setting.—*Translated from "Review of Building Material," Paris.*

* * *

Winning Clay With Shale Planer

Considerable interest is being manifested in a type of clay digging machine known as the shale planer. Inasmuch as it is not a very common method of winning clay it might be of interest to superintendents to know what performance such a machine is capable of.

The planer at the plant of the Flint Brick Co., Des Moines, Ia., is forty-five feet in height and is at present digging from a shale bank forty-three feet high. A forty horsepower motor drives the cutting chain at a speed of from 90 to 100 feet per minute. With every swing the planer takes off approximately



Shale Planer in Operation at Flint Brick Co., Des Moines, Ia.

Carbon That Must Be Oxidized

To drive out the impurities mentioned in the preceding item, a certain minimum temperature is necessary; also plenty of oxygen and sufficient time. The reason why these substances must be expelled from the clay is that when the ware is burned to a higher temperature, than required to mature it so that it has the proper strength, the gases coming off would be confined in the ware and produce a product full of gas holes and of consequent weak structure. Hence, these gases must be driven off from the ware before a temperature high enough for the clay to become sufficiently dense to confine the gases, is reached.

A surface clay contains on the average of about five-tenths per cent. of carbon usually in the form of organic matter which burns out readily. Fire clay contains perhaps one per cent. of carbon altho in some fire clays considerably more carbon is contained. Shales from zero to as high as ten per cent. carbon. However, those shales which have as high as five per cent. of carbon are worked with difficulty, cause constant trouble and increase the cost of manufacture. Excess time must be spent in burning, especially in the oxidation period when clays of high carbon content are used. Of course, the state in which the carbon exists influences the rate of oxidation and bituminous carbon will oxidize with greater rapidity than an anthracite or graphitic carbon.

one inch from the surface of the bank. It can readily be seen how so thin a cut in a hard shale bank will produce fine particles, thoroly mix the raw material, and make it considerably easier for the dry pan to handle.

The capacity of the shale planer varies with the height of the bank. At the Flint Brick Co. plant it very easily supplies the 250 tons which that plant requires daily. The capacity is, however, considerably greater than 250 tons per day.

The machine is moved forward on sections of track as it digs itself into the shale bank.

⁂

Remarkable Performance of Auto Truck

An interesting account of how a motor truck was enabled to release itself after being stuck in a clay pit that may be of interest to superintendents, is given in the March issue of "Duplex Doings." Quoting from the above paper:

"An impromptu 'slide-for-life' was recently staged in J. T. Bramlett's clay pit down near Enid, Mississippi. The star performer was a Duplex 4-Wheel Drive—the spectacular slide taking place on a grease-like slope just after a heavy rain. But no ringmaster called the act—the truck simply backed too near the edge of the pit and—plop!

"When the workmen gathered 'round at the bottom of the pit, they found the Duplex radius-rod-deep in oozy fire clay.

"Fourteen mules were hitched to the Duplex. Nothing doing! Not even when all fourteen were finally started in the same direction at the same time. Twelve men pushed but the truck displayed no interest whatsoever in their combined efforts to move it.

"Finally a railroad jack was used to loosen the wheels which were buried in the soft, sticky clay. Logs were cross-laid for a road and the Duplex 4-Wheel Drive climbed out under its own power.

"The only damage the truck sustained was a cracked radius-rod which a blacksmith brazed in thirty minutes. It has given no trouble since."

⁂

Records Flue Gas Analysis

A new departure in combustion control devices is described in an illustrated bulletin recently issued by the Mono Corporation of America. The Duplex Mono, as it is called, is unique in that it automatically analyzes and records the combined percentages of three combustible gases (CO, CH_4 and H_2) during all such times as any or all of these appear in the flue, while it also produces a continuous record of the percentage of CO_2. Both records are on the same chart. This is of a new type, and it is claimed is very clear and easy to read.

The bulletin emphasizes the serious losses which frequently occur in boiler plant furnaces on account of the escape of unconsumed combustible gases. This may occur at any time, but happens especially when high CO_2 records are attempted under the guidance of flue gas analyzing instruments recording CO_2 only, even when supplemented by an occasional snap test for CO. With the Duplex Mono as a guide, the fireman learns to regulate his fires and drafts to avoid the escape of combustible gases while holding CO_2 at the highest possible percentage at all times. Should combustible gases appear when the percentage of CO_2 is less than the allowable percentage at which experience with the particular furnace in question has proven it possible to operate under any set of conditions, he knows there is something wrong requiring immediate attention.

The plant executive is given a permanent record which gives him the data necessary to compute the degree of efficiency attained in firing, and offers him every opportunity to intelligently select his fuel, make alterations or repairs, and supervise the efforts of the firemen.

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Meet FALLING PRICES
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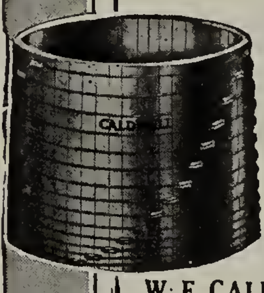
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Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

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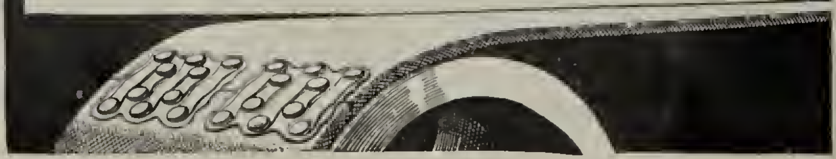


QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

What Causes These Troubles

In the March 8 issue of *Brick and Clay Record,* in the department of "Questions and Answers" was published the request for help from a Pennsylvania manufacturer who was having trouble in the manufacture of his brick. He writes as follows:

"The trouble that we are having is that the column cracks on the sides, the cracking taking place immediately after the column leaves the die. Secondly, the clay bakes to the insides of the nozzle and gets very hard like cement. Thirdly, the clay backs out of the nozzle and into the hopper. We put on a new nozzle and new augers but found no improvement."

The answers given in reply contain various suggestions. The mixture may be too low in plasticity to work satisfactorily. A die of fairly short length with little or no taper may help solve the difficulty. Lubrication of the die should be looked into with a view to thoroly lubricating this part of the machine. Arranging the flights of the auger in such a manner as to concentrate the pressure at the center of the die may be of service. It was suggested that the cracking of the clay bar may be due to unequal friction in the die. The sides of the die offering greater resistance than the edges would result in a tendency of the bar to split. The backing up of the mass in the machine is caused by excessive forward pressure, due to too much resistance in the die. The augers should fit the casing snugly and the casing should be rough enough to offer greater resistance than the friction of the auger blades, to prevent the mass turning with the auger.

The above paragraph contains most of the various suggestions for remedy offered in the last issue of *Brick and Clay Record.* Another answer attempting a solution to the problem has been received and is printed below:

The first difficulty, the baking of the clay on the inside of the nozzle, is due to ineffective lubrication. Either he has not sufficient steam pressure; the die is not working properly, or the die is not of the proper type for the mix he is using. The second trouble is caused by the first.

There are hundreds of different types of dies and I have no doubt but that a steam lubricated die could be obtained which would work properly with his mix. It is quite possible that the die has too much taper and that a much straighter one should be used on account of the high flint content which would cause excessive friction. However, a steam lubricated die may not be what he requires, and in such case, he could get either an oil lubricated or water lubricated die which would produce good results.

⁂

Determining Value of Clay Pit

963. *New Jersey—We are trying to determine a proper charge for depletion and are wondering whether you have in your files any articles bearing on this problem. We want especially to arrive at the value of clay in the pit as of March* 1, 1913, *and have to show how we arrive at that figure.*

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

There are four basic conditions affecting the value of land containing a deposit of clay. When the deposit of clay is being used, use the following formula:

$$V = \frac{2\ ATC}{2 - I - IY}$$

When the deposit of clay is not being used, and its use will not commence this year, use the following formula:

$$W = \frac{2\ ATC}{(1 - IZ)\ (2 - IY)}$$

When the deposit of clay is being used and the surface has a value, use the following formula for the surface land value:

$$X = \frac{(API)\ (Y - 1)}{2 - I - IY}$$

When the deposit of clay is not being used and its use will not commence this year, and the surface land has a value, use the following formula for the surface land value:

$$R = \frac{API\ (Y - 1)}{(2 - I - IY)\ (1 - IZ)} - \frac{APIZ}{(1 - IZ)}$$

Evidently, when it is desired to find the total value of the land which has a surface value and contains the deposit, we must add together V and X or W and R, as the case may be.
add together V and X or W and R, as the case may be.

In all of the formula shown here the various characters represent the following value or figures:

"V" represents present value of deposit, if now being used, or if its use will be started in the present year.

"A" represents number of acres which are underlaid with clay.

"T" represents the average tonnage per acre, estimated from average depth of deposit.

"C" represents the advantageous price per ton. This is the price per ton that the clay deposit is worth. This must be figured as a decimal of a dollar.

"I" represents the interest due on investment capital. When this is six per cent. it must be entered as .06.

"Y" represents the number of years the deposit will last if used at a uniform rate, which in most cases must be estimated.

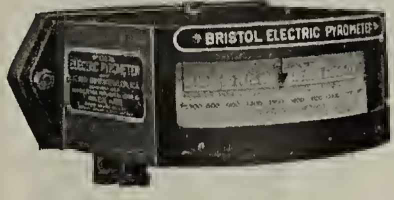
"Z" represents the number of years that it is thought the deposit will lay idle, or the number of years that will elapse before the continuous operation of clay digging will be started. When the term represented by "Z" is concluded, the term represented by "Y" begins.

"X" equals the value of the surface land, when used for farming or other purpose on a piece of land which contains a deposit of clay which is being dug or will be this year. "X" represents the surface land value when "V" represents the clay deposit value.

"W" represents present value of clay deposit, if it is not now being used, or if its use will not be started in the present year.

"R" equals the value of surface land when used for farming or other purpose on a piece of land which contains a deposit of clay which is not being dug and which is not to be dug

PYROMETERS FOR THE KILN



See Bulletin AE-291.

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to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
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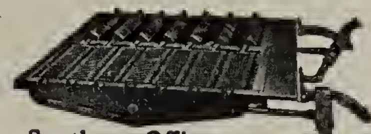

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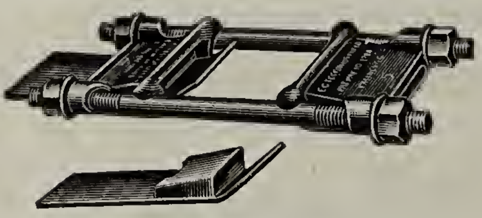

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No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.
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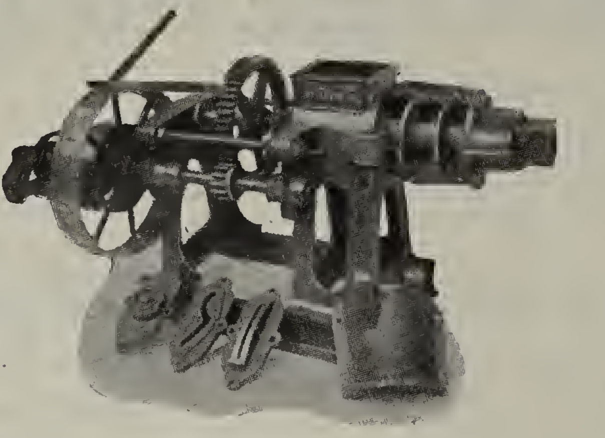

No plant is complete without a small unit for testing and the making of special shapes and sizes. Advertise with samples of your ware.
CLAYCRAFT SERVICE CO.
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YOUR TROUBLES ARE OUR PROBLEMS.
MACHINERY—Up To Date.
DRYER—Continuous Tunnel Type Without the Use of **Cars.**
KILNS—Railroad Tunnel Type.
CLAYCRAFT SERVICE CO.
503 Wainwright Bldg. ST. LOUIS, MO.

this year. "R" represents the surface land when "W" represents the value of the clay deposit.

"P" represents the value of the surface land for farming or other use."

⁂

Cannot Get Heat Into Middle of Kiln

964. *Newfoundland—We are burning our up-draft kilns with coal and cannot get the middle of the kilns hot enough. We do not know if our grates are far enough thru the kiln and ask your advice on this question.*

It is hard to tell from this point without having more information, just what the reason is for your inability to get the middle of your kiln hot enough. The trouble with your kiln may be too small furnace area, in which case you will have to enlarge the size of your fire boxes.

It is also possible that your draft conditions are not sufficient to carry your heat thru the kiln properly.

Another reason may be that the kiln setting is not conducive to good burning. We would suggest that you investigate the kiln setting to see if you have not set the top courses too tight and the center courses too loose. By tightening the center of the brick work and opening up the setting at the top, it may be possible to collect more heat in that part of the kiln. On the other hand, if you have too tight a setting in the kiln center, it may interfere with the draft to the extent that the path of the heat is side-tracked and does not come in contact with the brick in the center.

It may also be possible that your kiln bottom is clogged. The flues of your kiln may be filled with debris and if properly cleaned out may obviate the trouble.

By working along the lines suggested here you may run across the cause of your difficulty.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Christens Products "Steelclay"

In a paper which the Southern Building Products Co., Little Rock, Ark., publishes, that company announces the adoption of a new trade name for its clay products. The output of this concern's plant will be known in the future as "Steelclay" products.

The concern publishes a highly interesting, four-page clay products news bulletin, for the purpose of acquainting the public with its products and service.

Roofing Tile Manufacturer Increases Output

I. F. Angulo, proprietor of a roofing tile plant in Santa Barbara, Cal., is making some enlargements in his yard due to a great increase in business. For the past year Angulo has been kept busy supplying his product which is known as the old fashioned Mission tile for roofs.

New Concern to Make Low-Priced Brick

Paso Robles will revive a former industry there, when S. Carr and his associates open a works for burning brick during the latter part of March. Mr. Carr will manage the enterprise which is financed by local capital. Machinery is being shipped to the plant and deliveries will be made within ninety days it is said. The new concern announces that it will put out brick at such a price that building with that material will be stimulated.

Plans Change in Building Code to Admit Tile

After considerable discussion the Riverside City, Cal., council at a recent meeting decided to take under advisement the proposed ordinance which would permit the erection of hollow tile structures within the fire district. Speaking in favor of the proposed ordinance Karl Martin pointed out that the Federal government has practically adopted the hollow tile method of construction for all its buildings. Others contended that either brick or concrete should be used in the restricted zone.

San Diego Drafting Modern Building Laws

A new building ordinance embodying many provisions taken from ordinances now in effect in other cities of from 75,000 to 100,000 population, and designed to make San Diego, Cal., regulations modern in every respect is being drafted by Oscar G. Knecht, city building inspector, and as soon as it is approved by the city attorney will go to the city council for adoption.

In the ordinance the city of San Diego is divided into four sections or districts as follows: Business, Semi-Business, Suburban and Residence.

Provision is made for adobe house construction, a style typical of the southern country, with provisions however, for improvements which are designed to make such structures modern and durable.

Stocking up on Brick and Tile

While brick and clay products manufacturing is proceeding normally thruout California despite quiet conditions reported in the East, nevertheless the general lack of business activity is felt in the Pacific Coast state to some extent. It is true that the depression there is negligible in comparison to the sluggishness apparent thruout the East, but the lack of demand for brick and clay products generally with all building materials is causing some worry among brick men.

Brick and tile plants have for the past few months been producing a steady output, operating normally and piling up brick, but there has been very little demand, and the situation is today very quiet. However the brick plants are still continuing to pile their product in anticipation of a widespread building boom this spring and summer. It is thought that brick and building materials will be in great demand before many months and that the present policy of piling up a large surplus will prove justified.

However if the expected building boom in San Francisco and other cities in the northern part of the state does not materialize, the brick industry will certainly feel the effects of such inactivity. To date however there is every indication that the spring and summer months of this year will witness a period of great building activity. If such is the case the brick manufacturers will be prepared to take care of the demand for all classes of materials and the new plants which have lately been added to the industry here will receive added impetus.

Increase Working Hours

The Colfax Press Brick Co., operating a plant in Denver, Colo., informed yardmen and brick makers recently that they would be required to work nine hours instead of eight in the near future.

Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife, Mary Anne, could never cook beans quite to suit his taste. As a matter of fact they were usually burned on top. Mary Anne's stove suffered from about the same ailment as a great many Heat Treating Furnaces do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to heat radiation from many uninsulated surfaces.

Insulation with SIL-O-CEL of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Heat Treater's furnace would guarantee an even temperature in the oven. For the Heat Treater, this would not alone eliminate one of the most risky elements, but would also save fuel by preventing the escape of 60 to 70 per cent. of the unused heat which ordinarily radiates from the outer surfaces.

CELITE PRODUCTS COMPANY

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Every modern clay plant uses the MARION. It is a vital piece of necessary equipment which must not be overlooked while efficiency counts. Saves the labor of 2 or 3 men. Speeds production and insures better ware.

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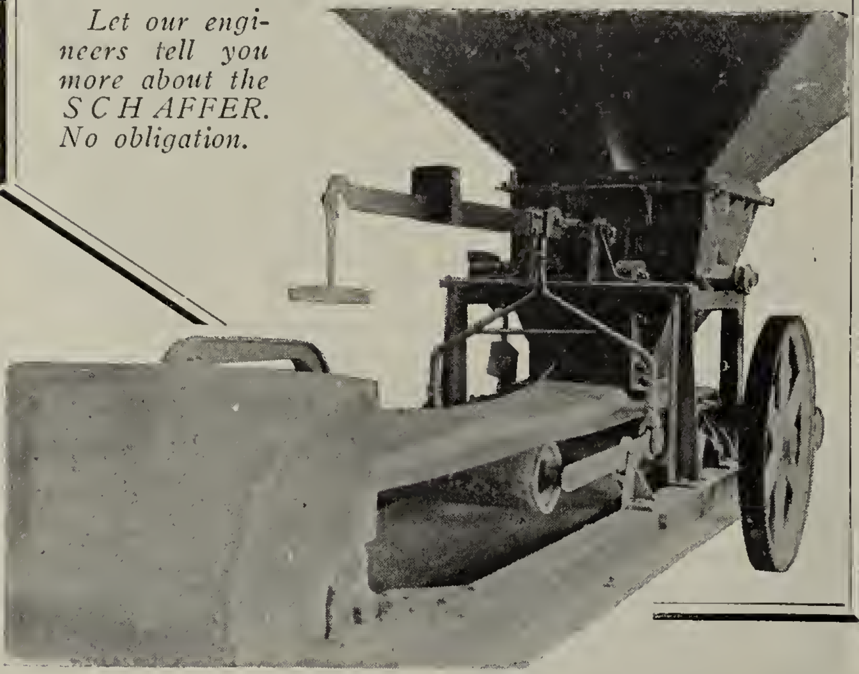
The SCHAFFER POIDOMETER is truly the most reliable and perfect mixer of raw materials on the market today. It requires an operator only a few minutes each day and the proportions and temper of the clay mixed by the SCHAFFER cannot be beaten. It eliminates the cracked and imperfect ware, thus aiding you to more and better production.

Let our engineers tell you more about the SCHAFFER. No obligation.



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Toronto "Means" Dependability

You can *depend* on
Toronto Clay Working Machinery
for Results

SEND US YOUR INQUIRIES

Toronto Foundry and Machine Company
Toronto, Ohio

Hartford Brick Plant Sold

The brick manufacturing plant of Michael J. Nevels, Windsor Avenue, Hartford, Conn., has been sold by Mr. Nevels to Michael, John and Thomas Sponzo, who have been operating the yard for about a year past under the name of the Sponzo Brick Co. The sale includes land and buildings, machinery, tools, etc. It is said that the new owners plan for certain improvements and extensions in the property.

Business Slump Apparently Over

Brick manufacturers in the Berlin, Conn., district report a slight improvement in business conditions. Several small orders have been booked and a number of larger ones are said to be in prospect with indications that the period of depression is now approaching its final stages.

Clay Products Concern Organizes

The Bolivar Clay Products Co., Wilmington, Del., has been incorporated with a capital of $100,000. The concern will manufacture brick, tile, mosaics and so forth.

Rebuilding Mixing Plant

The Tucker Brick Co., Kissimmee, Fla., has work nearing completion on the rebuilding of its mixing plant, recently destroyed by fire. The new structure will cost about $15,000.

Georgia Has a New Clay Products Plant

Operations have just been begun at the new plant of the American Fireproofing Co., Milledgeville, Ga. The company is at present producing only brick, face and common, and samples show the product to be of high grade. Later on a larger line of clay products will be turned out. Russell Bone, general manager supervised the construction of the plant. He has had a wide experience in the clay industry and has been associated with some of the largest plants in the country.

Labor Will be Forced to Accept Reductions

Construction in Chicago is showing more or less signs of revival. Plans which have been held in architects' offices are now being released and given to contractors for figures. E. G. Eifrig, of the Adams Construction Co., Chicago, believes that labor will be forced to come down and when a reduction is effected a goodly amount of building will be done. As everywhere else plans for industrial buildings are scarce and in the line of new projects homes and apartments hold the limelight.

Increase in Activity Very Encouraging

A. E. Davis, of the Western Brick Co., is very optimistic concerning the prospects for 1921. He says business with his company has shown a remarkable activity during the first half of March and he is of the opinion that nothing will retard building during the coming season. At the company's plant at Danville, Ill., he says the labor situation is in much better condition than it was last year. Just how much this will affect the price of brick is problematical. While labor is more plentiful, yet there has not been much of a tendency to lower wages. The common labor is slightly lower, but other incidentals figuring in plant overhead, are now either lower, or have increased, for example freight rates.

* * *

The National Clay Products Co., of Indianapolis, Ind., has increased the number of its directors from 5 to 7.

The Falls City Hydraulic Brick Co., of Jeffersonville, Ind., which has been working for more than a year on a new brick plant, is developing a stiff mud brick plant, which will have a capacity of 80,000 brick a day, when running full time, and will be one of the largest in this district.

Have Little Hope of Much Railroad Work

In spite of a feeling generally on the part of brick manufacturers in Indianapolis that railroads would do considerable building this year, nothing can be seen that would indicate that such will be the case. The manufacturers now are practically unanimous in their belief that the volume of railroad work will be small. They say because of the industrial depression the roads are hard hit and will curtail their expenditures to a minimum.

Expects Larger Demand Than in 1920

W. A. Shoemaker, of the Bloomfield (Ind.) Brick Co., believes that while there will be a continuous demand for brick during the season for construction purposes, that the main demand will come from builders of residences, churches, apartment houses and schools. He says a tendency toward this sort of building already is marked in the jobs that are being figured. He does not believe that the amount of construction will be phenomenal, but he does believe that it will be greater than that of last year. Industrial construction is virtually at a standstill, he says, and he expects little of it during the year.

State Will Test Oil Shale Gratis

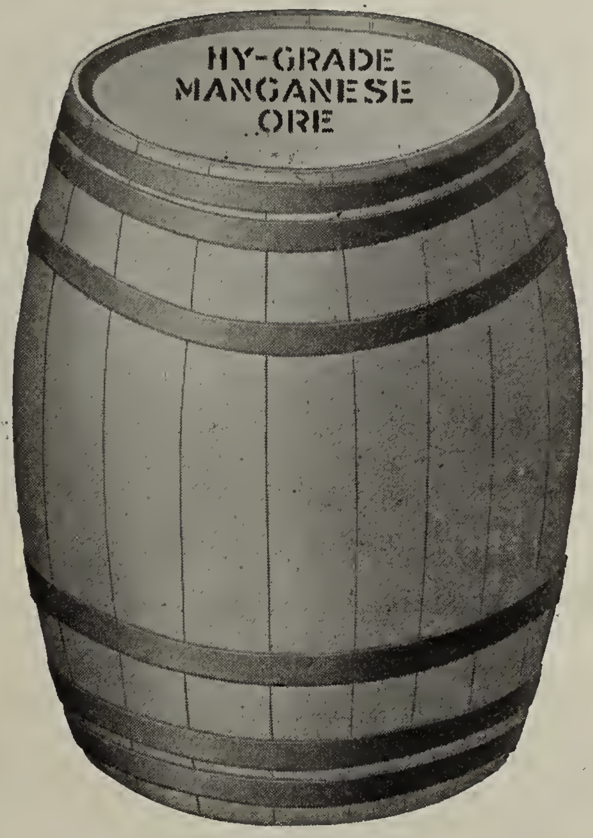
The division of geology of the Indiana conservation department is now in a position to test oil shales of Indiana and secure a comparison between the dry distillation process and the digestive process. Results obtained by testing samples collected in the field have been satisfactory, the best samples producing from thirty to fifty gallons of oil per ton of shale. Desiring to give the advantage of its work to as large a number of citizens as possible, the department will test samples of black shale from the coal producing area, and samples of the New Albany (Devonian) black shales of Indiana. These tests will be made free of charge for a limited time. Those desiring shales tested should send ten pounds of fresh unweathered shale by parcel post to the laboratory, Division of Geology, Indiana University, Bloomington, Ind. These laboratory tests will determine whether it will be worth while to send larger quantities to the commercial shale plant which is to be erected in the southern part of the state. Preliminary work on the erection of this commercial plant is well under way. This plant is on Silver Creek near New Albany at a point where a thickness of sixty feet or more of the New Albany black shale is exposed.

Leavenworth May Acquire Brick Plant

Leavenworth, Kas., is to have a brick plant of 10,000 to 15,000 daily capacity if the plan of Frank Jones, a contractor of that city, are carried out. Mr. Jones has made application for a permit and will most probably go ahead with the erection of the plant if the permit is granted.

Starts Capacity Operation

The Coral Ridge Clay Products Co., is again running at capacity, at Louisville, Ky., in making up stock of hollow tile and brick there being a very fair demand developing, with prospects of excellent business within a few weeks.



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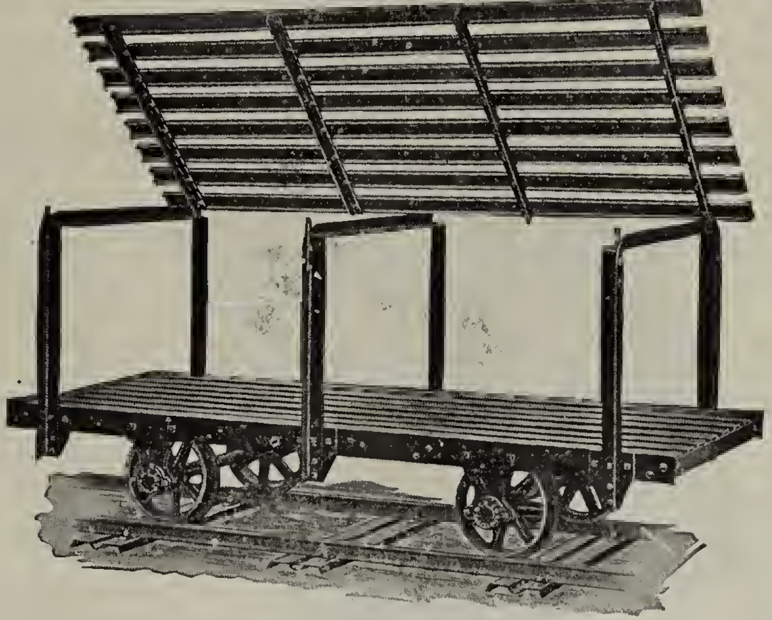

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Whether you handle clay, sand, gravel, coal, coke or similar materials a Godfrey Conveyor will
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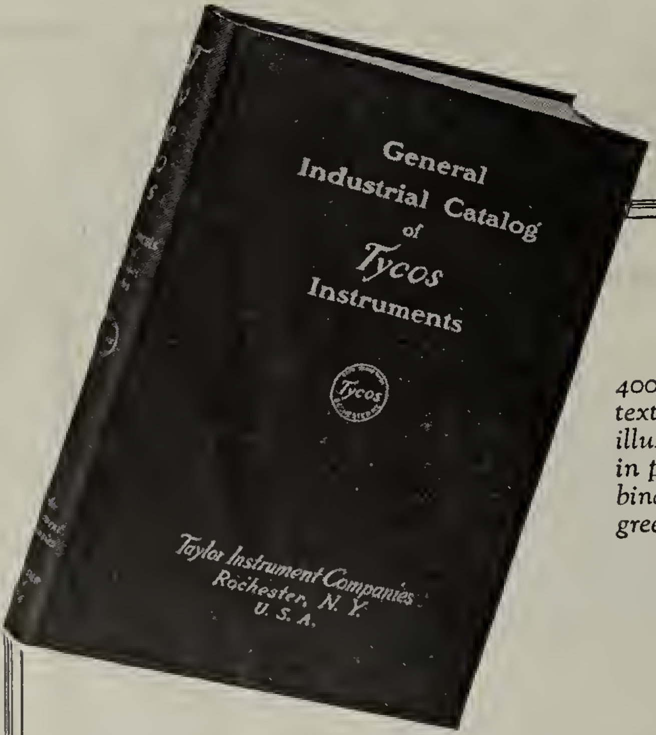

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Demand Only Fair

The Louisville Fire Brick Works, reports only a fair demand for fire brick, and is only operating part time at the Louisville as well as Grahn, Ky., plants. However, with the steel and metal working industries slightly busier, the prospects are considered better.

Brick Moving Somewhat in Louisville

W. E. Whaley. Louisville independent jobber, said: "I've been getting a fine volume of business. I'll start delivery of 150,000 brick on the Inter Southern building shortly, have about 160,000 sold on local residences; 150,000 U. S. Velvet Knaps, on the Paducah High School Building, Paducah, Ky.; 140,000 for the University of Kentucky, have a few other smaller sales, and have a good chance of getting the business on bids I've entered on two large apartment houses."

Demand for Sewer Pipe Good

Pat Bannon, of the P. Bannon Pipe Co., Louisville, Ky., reports that the company is far more cheerful than it was, and has received more inquiries in the past ten days than for forty or fifty days past. There is now a good demand fer sewer pipe, and several cars have been shipped the past few days, representing the best shipments for some time past. The demand for hollow tile is also picking up, and the company is now operating both of its plants on sewer pipe and hollow tile, and expects to start making brick again in the latter part of the spring.

Kentucky Freight Rates Question Settled

Discrimination existing against Kentucky brick manufacturers and jobbers as a result of intra-state rates being in effect in Indiana, as against interstate rates on movements, from state to state, has been destroyed as a result of Federal opinion in Washington, upholding the decision of the Interstate Commerce Commission, which ordered inter-state rates effective, but which was blocked by public service commissions in Indiana, Michigan and some other states. Brick manufacturers of Indiana moving freight on only a ten per cent. increase in rates, were able to keep out almost all competition, as outsiders were forced to pay increases of from thirty-three and one-third to forty per cent. in freight rates. The new tariffs became effective March 15.

Baltimore Brick Co. Resumes

The Baltimore (Md.) Brick Co. has resumed production at two of its plants at East Baltimore, located on Monument Street and Philadelphia Road, respectively, and expects to maintain manufacture on regular basis, giving employment to about 200 men. These yards are of "outdoor drying" type, and will be supplemented by the reopening of other plants of the company of this same character at an early date. Warren Griffiss is general manager and in charge of operations.

Zirconium Plant to Operate in Baltimore

The property of the Baltimore Rubber Tire Manufacturing Co. has been acquired by a new concern known as the Zirconium Company of America, which has been incorporated for the purpose of manufacturing ferro-zirconium and zirconium oxide. The production of a ton or more of ferro-zirconium and one and one-half tons of zirconium oxide daily is planned. The company's principal markets will be among the iron and steel manufacturers of the country. Officers of the new company are George F. Dixon, president; Philip G. Spencer, vice-president; Charles W. Smiley, secretary; Morris Meyer, treasurer.

Boston Brick Slumps $2

Common brick has taken another drop of $2 in the Boston market and is now being quoted at $25 per thousand delivered on the job. Business however is far from brisk and reducing prices appears to have little effect on demand.

Tile Company to Locate at Trenton

Walter L. Collins, 64 Grove Street, Milford, Mass., is organizing a new company to manufacture tile products and has made application to the Chamber of Commerce, Trenton, N. J., for a suitable plant for the new concern. Negotiations for the establishment of the industry at Trenton are now under way. The tile will be manufactured by a special process, it is stated, and will be for floor and wall service.

A. P. Green Curtails Operations

A report states that the A. P. Green Fire Brick plants in Mexico, Mo., have cut the working week from six to four days. This is done in an effort to keep the organization together until orders begin to come in more frequently. The storage space of the concern has been filled up completely. It is hoped that full time operation will soon be resumed.

Paving Work to Be Resumed

With the opening of spring, work will begin again on the paving of streets in Aurora, Neb. The brick is arriving in train loads. It will take 250 cars of brick to complete the paving begun last year.

Incorporates to Make Brick

The Phoenix Mineral Products Corporation, New York City, has been incorporated under state laws with a capital of $100,000 to manufacture brick, tile and other burned clay products. The company is headed by J. and A. Levy, and H. M. Johnson, 26 Liberty Street.

Paving Brick Down $5

The Metropolitan Paving Brick Co., Canton, Ohio, is now quoting paving block at $30 a thousand net, at its Bessemer, Pa., plant. Seconds suitable for building prices have been correspondingly reduced to a present price around $22 a thousand.

Organizes to Promote Home Building

In order to aid home building and the erection of apartment houses, the Cottage Building & Mortgage Co., of Cleveland, Ohio, has been chartered with a capital of $200,000. The incorporators are W. B. Lahr, E. J. House, D. E. Warner, J. C. Logue and H. M. Siering.

Coal Company Buys Paving Brick Plant

The Hisylvania Coal Co. of Columbus, Ohio, has purchased and is now operating the plants formerly owned by the Trimble Paving Brick Co., of Dayton, Ohio. The brick which is being manufactured is known as the "Athens County Block" and is of very high grade.

Several Sewer Pipe Plants Change Hands

As an indication of renewed sewer pipe and brick manufacturing activities recently, several plants at New Philadelphia, Ohio, have changed ownership and it is said sev-

"The ERIE is the most up-to-date and complete shovel on the market today."
H. C. McLenithan, Duffney Brick Co., Mechanicville, N. Y.

"OUR ERIE has more than paid for itself in 10 months and is as good as new. We are averaging 360 cu. yards a day in tough blue shale."
J. M. Purcell, Pres., Duffney Brick Co., Mechanicville, N. Y. (They now own 2 Eries.)

The ERIE gives steady, reliable service digging stiff clay or hard shale. A careful comparison of steam shovels will convince you that the Erie is the shovel to buy.

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Builders of ERIE Revolving Shovels and Locomotive Cranes.
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You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

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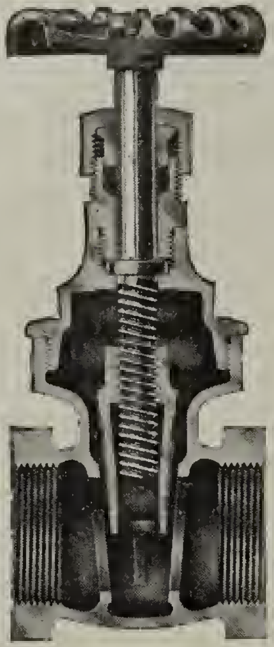

Sectional view of Figure 370.

Figure 370

REG. U.S. PAT. OFF. TRADE JENKINS MARK

Jenkins Bros

Jenkins Brass Gate Valves
(Standard Pattern)

Fig. 370 is designed for 125 pounds working steam pressure or 175 pounds working water pressure, and can be repacked when wide open under pressure. Equipped with non-heat hand wheels; or can be furnished with brass wheels, finished or plated, or special finish according to requirements.

Sold at supply houses everywhere. Look for the Diamond Mark on the body.

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Jenkins Valves
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Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.
EQUITABLE BUILDING
120 Broadway, New York City

eral important deals are pending for plants which under new ownership, would be placed on greater production.

Brick and Tile Company Changes Hands

The brick and tile works at Lake Chippewa, Ohio, has been purchased by Bert L. Cassidy and Bernard Puritan of Wellsville, Ohio, it is reported. Mr. Cassidy is to have charge of the entire management of the newly purchased plant. He was formerly superintendent for the McLain Fire Brick Co., of Wellsville.

Brick Paving Jobs Going Ahead

Four brick paving jobs are arranged for in the letting of Ohio Highway Improvement contracts, April 8, for which bids have been asked. They are a stretch of 2.881 miles in Athens County; a job of 1.97 miles in Mahoning County; another of 3.113 miles in Huron County and the last consists of 3.56 miles in Wyandot County.

Real Estate Men See Revival in Building

As the regular meeting of the fifth division of the Ohio Association of Real Estate Boards, held at Dayton, Ohio, early in March, reports received from all sections of the district showed a revival in building operations. It was reported that the great scarcity of houses which is developing in all sections will make it imperative that a lot of construction work go forward this season.

Akron Feels Optimistic Over Prospects

The outlook for the clay industry at Akron, Ohio is better than it has been for years, according to officials of the Robinson Clay Products Co. Reports from all over the country, officials said, indicate that clay products, especially paving brick, will be in greater demand than for the past few years, owing to the resumption of many communities of street improvement work.

Expect to Start up Soon

John Baker, sales manager of the brick department of the Hocking Valley Products Co., reports a larger number of inquiries coming in, but things are still a little slow. He believes, however, that trade will open later on as there are a large number of building projects on hand. The Hocking Valley Products Co. is arranging to start its plant at Greendale, Ohio, about April 1 to 10.

Business Better Than Ever Before

Work is plentiful at the Canton, Ohio, plant of the American Sewer Pipe Co., more orders being on file than ever before in the history of the company. The reason for this apparently paradoxical state of affairs lies in the fact that cities, towns and municipalities are all busying themselves with municipal work since prices have dropped greatly, according to officials of the plant.

New Concern to Make Partition Tile

A concern recently organized in Cleveland, Ohio, and known as the Mahoning Shale Products Co., has purchased the Carbon plant of the Liberty Clay Products Co. outright, it is said. This plant is a nine kiln unit and the new owners will use it to manufacture fire proof partition tile. Extensive improvements will be made and the working equipment enlarged.

The Mahoning Shale Products Co. is composed of the following men: John G. Litzel, E. T. Lawrence, J. A. Needing. W. W. Richman and E. I. Cranes.

Columbus Face Brick Prices Receding

There is a gradual decline in the price of face brick in Columbus and central Ohio territory. During the past few weeks prices have declined as much as $5 per thousand on most grades and varieties. This is especially true of the lower qualities. Face brick on the track at Columbus are now quoted at $30 to $44, depending on the grade, texture and color.

Make Changes in Office Force

H. H. Potter, Jr., who has been manager of the Detroit branch of the Denison Interlocking Tile Corporation, Cleveland, Ohio, has left to become sales manager of the clay products departments of Gamble & Stockton, at Jacksonville, Fla.

J. F. Earley and H. C. Dodge have been appointed members of the sales organization of the Denison Interlocking Tile Corporation, Cleveland, Ohio, and will have Cleveland and nearby territory.

To Hold Conference of Managers and Dealers

First get-together meeting and sales conference to be held since war times by the Denison Interlocking Tile Corporation, Cleveland, Ohio, will be held at Chicago, March 28, when seventy-five or more branch managers, licensees and dealers will gather. Past performances of the company will be discussed by those present, and suggestions for the future will be offered. Speakers who will address the meeting will be largely from the official staff of the Denison, with perhaps representatives from other branches of the clay working industry.

See Bright Year for Paving Brick Men

According to the officers and directors of the Ohio Paving Brick Manufacturers' Association there is a much better outlook for paving in the Buckeye State. This has developed during the past two or three weeks and is causing a feeling of optimism among the paving brick manufacturers and dealers. Some highway commission work is coming up from time to time and in addition a number of the municipalities in the state are starting legislation towards the letting of a number of street paving projects. On the whole the paving brick industry looks rather bright for the early part of 1921.

Lease Plant for Five Year Term

It was announced from the offices of the Medal Paving Brick Co. at Carrollton, Ohio, that this concern has leased its plant to the Collinwood Shale, Brick & Supply Co., Cleveland, Ohio, for five years at $65,000 a year, for the first two years, $75,000 the next year, $77,500 for the next year and $100,000 for the fifth year. The lease contains an option to purchase the fee with machinery and equipment, within a four year period for $320,000. The plant covers thirty acres. Spencer M. Duty is president of the Medal Paving Brick Co. Besides its plant at Carrollon, it has large factories in Wooster and Malvern, Ohio.

Logan Products Co. Rebuilding Burnt Plant

The Logan Products Co., of Logan, Ohio, which sustained a total loss a short time ago when its sewer pipe plant was destroyed by fire, has started the work of rebuilding. It is planned to have a brick structure, fireproof thruout with double the capacity of the former plant. A stockholders' meeting was held at Akron recently when steps were taken to rebuild immediately. J. J. Pfeiffer, president, and H. C. Cole, manager, will be in charge of the building, which is being done by the company's former employes. It is expected to have the plant

Perforated Steel Screens
Of Every Description

For Screening Clay, Shale, Sand, Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity, Durability and Satisfaction

The Harrington & King Perforating Co.
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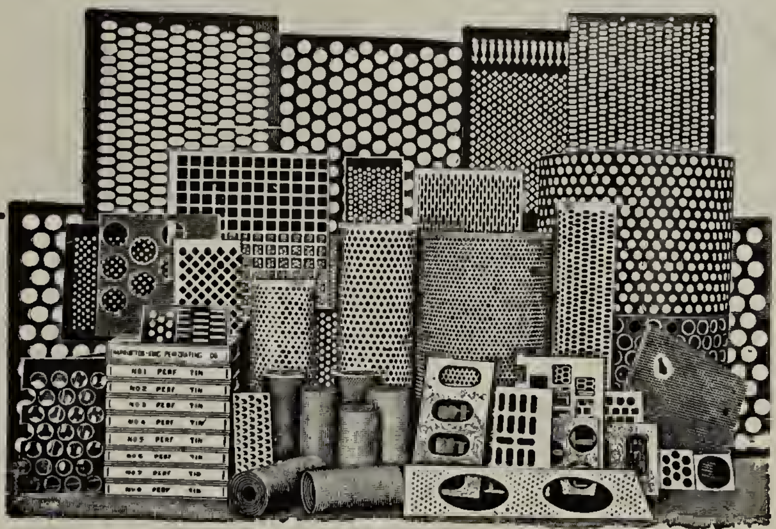
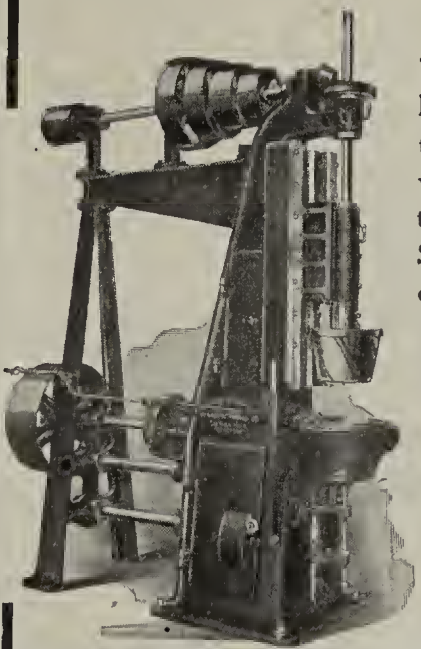


Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?



The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
409-11 Jefferson Avenue E.
DETROIT, MICHIGAN

in operation by May 1. Modern machinery will be installed. The headquarters of the company are in Akron.

May Open Ohio River for Brick Shipping

Altho there has not been much brick transported on the Ohio river for the past several years, there are good prospects of this business picking up again. Now that cost of coal is down, and common labor of the roustabout type is easy to secure and at less money, the river tugs can operate cheaply. One large steamer is being put in the Pittsburgh to New Orleans trade, carrying freight for thirty per cent. less than rail rates, and being the first boat to enter the thru trip business in a decade or two. A good many barges are building on the Ohio, and there is a strong chance that if rail rates continue high, that the river transportation companies will come back strong.

Reports of Year's Business Encouraging

The annual stockholders' meetings of the Nelsonville (Ohio) Brick Co. and the Ohio Fireproofing Co., also of Nelsonville, were held at the main offices of the companies in Columbus, February 5. Reports for the past year were very favorable. J. L. Murphy was re-elected president of the Nelsonville Brick Co., and W. H. Parks of Nelsonville, president of the Ohio Fireproofing Co. B. A. Evans was elected secretary of both corporations. M. M. Morrow was made sales manager of both concerns as well as the Hocking Valley Brick Co., at Logan, Ohio. All of the plants of the combination, consisting of three in Nelsonville and one in Logan, are in operation. Several were closed down temporarily for repairs. One plant at Nelsonville was recently put into shape for the manufacture of rail brick.

Motion Pictures Show Plant Operation

Motion pictures are now being shown of the plant of the Rock Products Co., of Toledo, Ohio, which is located at Oregon, Ill. It features the production of a high grade silica sand for glass and pottery purposes. This plant is the largest and most modern of its character in the United States, and its triple washing of the sand insures consumers of a grade not possible elsewhere.

In the potteries, this sand is used for placing purposes and in pottery flint. The pictures show every detail in the production of the product, from the time it is taken from the ground to shipping.

A. G. Minehart, Jr. formerly of East Liverpool, Ohio, is the treasurer and general manager of this organization, and is in charge of the sales department.

Two New Ohio Clay Products Plants

The Franklin Adis Tile Co., of Columbus, Ohio, has been chartered with a capital of 750 shares of stock, no par value specified, to manufacture and sell tile and blocks for building purposes. The company will also control the installation of these blocks. The incorporators are J. J. Morgan, P. Cozad, E. Bragmeier, S. P. Outhwaite and C. Tressemer. J. J. Morgan will be president and general manager of the concern. A tract has been acquired on West Goodale Street and the H. V. tracks, upon which it is proposed to erect a plant for the manufacture of the tile which is a stucco proposition. It is planned to have a capacity of 200,000 tile yearly. Special machinery will be installed, including mixers, conveyors and molds.

The Collinwood Shale Brick & Supply Co., of Cleveland, Ohio, has been chartered with a capital of $300,000 to manufacture and sell brick, all clay products and various building supplies. The incorporators are W. T. Holliday, W. A. McAfee, A. B. Oakes, M. F. Hanning and A. A. Stambaugh.

Average Clay Plant Operators,

because of the limited production possibilities in their plants, cannot install heavy, high priced machinery, no matter how much labor it will save them—BUT—they can afford and should install light, reliable machinery such as the One Man Excavator. It is economical, efficient and reliable, and will dig your clay in the required quantity — assuring a perfect mix of each strata. Only one man is required to operate the Excavator and under ordinary conditions the daily cost would not exceed nine dollars for labor, fuel and oil.

If yours is an average plant with an output of from 25,000 to 100,000 brick daily, you should install a Bay City Excavator.

Write TODAY For Complete Data.

Bay City Dredge Works
216-219 Center Ave. BAY CITY, MICH.

Favor Reduction in Insurance Rates

Manufacturers of brick and all kinds of clay products in Ohio are backing the movement of the Ohio Board of Commerce for radical amendments to the Ohio compensation law. The Ohio Board of Commerce recently sent out questionnaires to about 1,000 leading manufacturers and business interests of the state with the result that fully ninety per cent. were in favor of amendments to the law. Under the present plan the Ohio Board of Awards has a monopoly on all of the state insurance and private liabilities companies can not compete. But it is believed by opening the way to private liability companies' rates, which are excessive and unreasonable, will be brought down. It is held that the present high rates for compensation insurance places an unnecessarily heavy burden on the manufacturers and business interests of the state.

Becomes Principal Stockholder

D. G. Moomaw, president of the Exchange bank at Stonecreek, Ohio, by his purchases of the holdings of the five directors of the Stonecreek Brick Co., this week became principal owner of this concern which is being developed into one of the largest clay industries in Tuscarawas county. Formal retirement from the board of Dr. W. A. Demuth, F. B. Larimore, James L. Doney, E. E. Lindsay, and Charles Beers, took place this week. Others on the board are W. C. Morrison of Cambridge, Ohio, and Fred Strine of Canton.

It is believed that Joseph and George Moomaw, brothers of D. G. Moomaw and partners of C. V. Shepfer in a clay plant at Sugar Creek will be associated with him in ownership and reorganization of the Stonecreek plant. Completion of the new plant is being rushed. The capacity of the plant when finished will be 50,000 brick a day. It is planned to manfacture tile, paving block and hollow blocks as well as brick.

Making an Abandoned Clay Pit Useful

In Oklahoma City, Okla., a use has been found for an abandoned clay pit there, a report states. The pit has been filled and plans are now before the city to convert it into a playground for children. No great expense is involved in making a small park out of this property.

Will Manufacture Chemically Treated Brick

D. W. McKinnon of Eugene, Ore., is working on a new process of manufacturing brick. The brick are made of sand and are hardened with chemicals. They are also coated with the chemical to keep out moisture. Mr. McKinnon believes that he will be able to produce a brick that is as good as others and probably will be cheaper.

Three Clay Concerns in Merger

A merger of three companies in Curwensville, Pa., is announced, George S. Good Fire Brick Co., Clearfield Clay Working Co., and Crescent Refractories Co., have joined their interests. The combined output is reputed to be 275,000 brick per day.

To Make Magnesite and Chrome Brick

In the February 22 issue of *Brick and Clay Record* an item referring to E. J. Lavino & Co., Plymouth Meeting, Pa., gives an incorrect impression of the company's activities. The concern manufactures magnesite and chrome brick exclusively for the furnace trade. A dry press machine with a capacity of 15,000 to 18,000 brick per day has recently been installed.

Walter Bledsoe & Company

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General Office:
Terre Haute Trust Bldg.
TERRE HAUTE, INDIANA

Branch Offices:
CHICAGO INDIANAPOLIS
CINCINNATI

We recently received the following letter from one of our old customers:

> As a matter of record, we have just had an analysis made of some samples of coal from several of the cars which have recently been shipped us and we believe that the report will be of interest to you and probably of service in interesting other customers.
>
> Our chemist advised as follows and says that it is a magnificent coal and will yield most excellent results:

Volatile matter	38.00
Fixed carbon	56.65
Ash	5.35
	100.00
Sulphur	0.604

This is one of many such letters we have received in regard to our No. 4 vein coal and we believe is more expressive than anything we can say on this subject.

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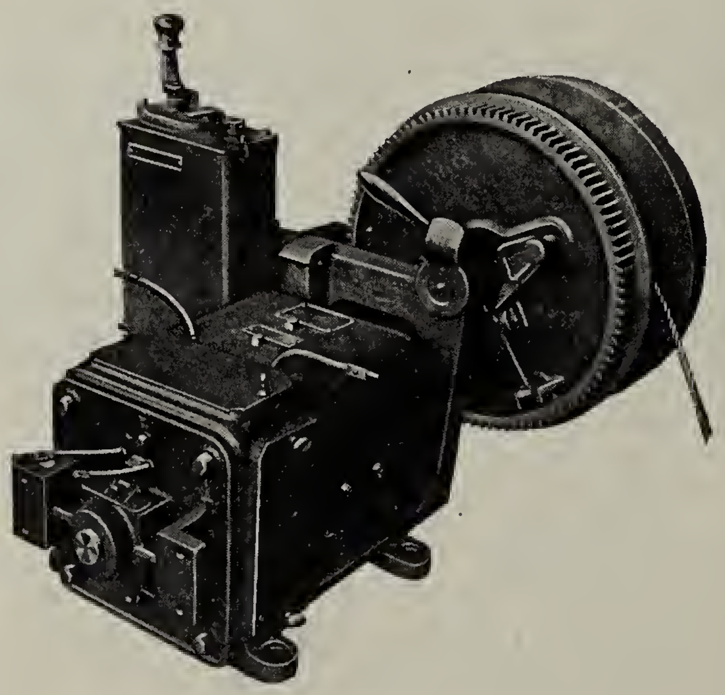

IF more than one man is required to push dryer cars from your tunnels, GOODMAN WIRE ROPE REEL will pay for itself in eight months or less.

The cost is small—
The satisfaction is great

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of the several methods
of installing

Goodman Manufacturing Co.
48th to 49th Streets on Halsted
CHICAGO - - ILLINOIS

(92)

Clay Products Company Organized

The Rose Clay Products Corporation, Essington, Pa., has been organized with a capital of $100,000 to manufacture burned clay products of various kinds. The company is headed by Joseph R. Rosse, Essington; and Ernest R. and A. R. Rosse, Philadelphia.

Organizes for Refractories Manufacture

The Northern Refractories Co., Ridgway, Pa., recently organized, has established local offices and will operate a plant in this section for the manufacture of fire brick, furnace linings and other high-grade refractories. The company is headed by Ives J. and J. Ellis Harvey, Bellefonte, Pa.; M. P. Shanley, Ridgway; B. E. Taylor and H. B. McCullough, Brockwayville, Pa.; and E. J. Burke, Rochester, N. Y.

Brick Company Ceases Activities

The Milton (Pa.) Brick Co. has perfected plans for a dissolution of the company, and has made application to the court for permission to cancel its state charter. It is said that general industrial conditions are responsible for the action. The company is capitalized at $200,000, and has an extensive local plant. After all obligations are paid, it is said that a surplus of about $30,000 will be shown. D. H. Miller is president.

Building Public Beginning to Awake

A general improvement in the brick, clay, tile and allied interests in the Pittsburgh district, with prices holding firm and in some instances showing a slight increase, has been noted during the last week.

More plants are being placed in operation and with a surplus of labor the outlook is extremely promising for a boom in the near future. The building situation continues to demand the most attention in this district and it is confidently said that this line soon will be giving the industry plenty of business.

Jacob Sofel, contractor and builder, speaking at a luncheon of the Builders' Exchange, said that the wages of the members of the building trades will have to be reduced at least 20 per cent. before building activities can be resumed on a pre-war basis. "There are hundreds of building plans in abeyance in Pittsburgh and vicinity, but very few of them will be executed while the present wages of the building trades prevail," he said.

That there is some measure of relief in sight in connection with the existing house shortage as a result of a slight revival of activity in home building, is indicated by reports from the office of S. A. Dies, superintendent of building inspection. The turn for the better is not measured in large figures, but authorities are of the opinion that the depths of inactivity on the part of home builders have been sounded.

The fact that labor is more readily obtainable and there is no longer a pronounced shortage of freight cars together with drops in price of structural materials, are cited by builders and others as reasons why a revival of building activity may be expected.

New 100,000 Capacity Brick Plant Operating

The McGraw Brick Co., Gaffney, S. C., which has a plant on Broad River, commenced the manufacture of brick recently, a report states. The plant has a capacity of 100,000 brick a day, and the quality of the clay is considered very good. The company will make brick for building purposes and for road paving. According to C. D. Meadows, general manager and treasurer for the company, commercial sand and rock ballast will also be produced.

The Ku Klux Klan Is With Us Again

The Hood Pottery Clay Products Co., operating a number of brick and tile plants in the Chattanooga, Tenn., section recently resumed work at its plant at Daisy, Tenn., with a marked reduction in wages, it is announced. It was thought that this arrangement was satisfactory to all concerned. Apparently this was not the case however, for some few mornings later, acting general manager G. B. Ford found a neatly arranged bundle of switches lying inside his gate. The bundle had a card attached bearing Mr. Ford's address and no other writing excepting three initials, "K.K.K." in small letters.

Other employers who have heard the circumstances surrounding the episode are inclined to treat the incident lightly, preferring to believe the warning a practical joke.

Begins Spring Operations

The Provo (Utah) Brick & Tile Co., has begun to operate and the outlook for business is encouraging. Several orders have been placed with the company and many more are expected from people who are contemplating building residences during the year.

Silica Brick Withstand Hard Test

The brick manufactured by the Newboldt Silica Fire-Brick Co., Ltd., Sydney, Australia, are reported to be of very high grade. Some time ago the Broken Hill Proprietary Co., Ltd., at Newcastle, N. S. W., Australia, established what is considered as a world's record in producing 10,024 tons of steel from seven sixty ton open hearth furnaces in one week. The fact that they were able to obtain these results, is attributed to the excellence of the silica brick.

Roster, Illinois Clay Manufacturers' Meeting

(*Continued from page 474*)

E. D. Mattes, Decatur Brick Mfg. Co.
W. A. Laverty, Brazil Clay Co., Brazil, Ind.
E. C. Hervey, Hydraulic-Press Brick Co., Indianapolis, Ind.
J. J. Kearney, Illinois Paving Manufacturers' Assn.
W. M. Hansen, Illinois Paving Manufacturers' Assn.
C. E. Carter, Peoria (Ill.) Brick & Tile Co.
M. J. Dowdell, Ill. Paving Brick Mfg. Assn.
J. A. Reeves, Streator (Ill.) Drain Tile Co.
E. W. Washburn, Univ. of Ill., Urbana, Ill.
F. W. Butterworth, Western Brick Co., Danville, Ill.
Eben Rodgers, Alton Brick Co., Alton, Ill.
E. F. Plumb, Streator (Ill.) Brick Co.
Wm. Hammerschmidt, Lombard (Ill.) Brick & Tile Co.
Geo. J. Walter, Tile & Brick Mfg. Co., Chatsworth, Ill.
John T. Hummert, Gem City Press Brick Co., Quincy, Ill.
R. C. Rahn, Western Electric Co., Chicago, Ill.
R. M. Comb, Thomas Moulding Brick Co., Chicago, Ill.
G. B. Luckett, Crawfordsville, Ind.
A. W. Buckingham, Russell Engineering Co., St. Louis, Mo.
G. C. Mars, A. F. B. A., Chicago, Ill.
Douglas F. Stevens, Acme Brick Co., Danville, Ill.
Wm. Varney, Hydraulic-Press Brick Co., Chicago, Ill.
C. C. McCormick, Des Moines, Ia.
V. H. Cartwright, Lacon Clay & Coal Co., Lacon, Ill.
M. E. Gammon, Building Supply News, Chicago, Ill.
F. L. Steinhoff, Brick & Clay Record, Chicago, Ill.
Herbert V. Kaeppel, Brick & Clay Record, Chicago, Ill.
Thomas C. Moulding, Thomas Moulding Brick Co., Chicago, Ill.
Jas. R. Thomas, Standard Brick Co., Crawfordsville, Ind.
F. W. Lucke, F. W. Lucke & Co., Chicago, Ill.
Harry L. Baldwin, Div. Secy. Amer. Face Brick Assn., Chicago, Ill.
W. R. McKown, Brooklyn Brick Co., Indianapolis, Ind.
W. P. Whitney, Springfield (Ill.) Paving Brick Co.
R. K. Hursh, Univ. of Ill., Urbana, Ill.
John W. Hasburg, Chicago, Ill.
J. M. Mamer, Campus (Ill.) Brick & Tile Wks.
T. A. Randall, "Clayworker."
J. D. Kinsey, Weller Mfg. Co., Chicago, Ill.
D. P. Ogden, Streator (Ill.) Brick Co.
G. S. Brubacker, Hadfield-Penfield Steel Co.
Ralph P. Stoddard, Common Brick Manufacturers' Assn.
W. F. Schlake, Illinois Brick Co., Chicago.
T. H. King, Colchester (Ill.) Brick & Tile Co.
D. C. Haeger, Hacger Brick & Tile Co., Aurora, Ill.
E. W. Washburn, University of Illinois.
H. T. Bellamy, Western Electric Co., Chicago.
H. A. Jung, National Clay Products Industries Assn., Chicago.
L. Haigh, Hadfield,-Penfield Steel Co., Bucyrus, Ohio.
A. S. Shepard, American Dressler Tunnel Kiln, Cleveland.
H. M. Robertson, American Dressler Tunnel Kiln, Cleveland.
W. E. Buell, Barber-Greene Conveyor Co., Aurora, Ill.
J. H. Gregory, Barber-Greene Conveyor Co., Aurora, Ill.

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Deadwood, S. D.
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COAL

PRODUCED BY

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EVEN in COMBUSTION

"BIG CREEK"
For Years Has Stood
for

SERVICE
AND
QUALITY

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

New Literature Received

With the coming of spring, and the knowledge that the clay plants will very soon open up for a profitable season, the manufacturers supplying this trade are getting busy with new circulars and catalogs.

Celite Products Co., 11 Broadway, New York City, have mailed out a well-illustrated folder, enlarging on the thought that "Your heating equipment can be made more productive if insulated with SILOCEL Insulation." The folder carries a detachable return post card, which can be checked to indicate just what information is desired.

Godfrey Conveyor Co., Elkhart, Ind., have distributed a 4-page circular showing installations of the Godfrey Conveyor and illustrating its many uses. It is particularly successful in the handling of coal, and when it is estimated that the average tonnage of coal per clay plant is over nine thousand tons per year, with many of them up to thirty-five thousand tons, the great need for equipment of this kind in the industry can be better appreciated. The superintendent of the Van Camp Plant states that they are unloading to storage at a cost of 3 cents per ton while the cost of conveying coal to bunkers in boiler room is only 6 cents per ton. Ashes are also conveyed from boiler room to place of deposit.

The offering of the Thwing Instrument Co., 3339 Lancaster Avenue, Philadelphia, is more elaborate, comprising a 20-page catalog, and emphasis is placed on the name of the company by the use of an attractive cut "Thwing" in the lower corner of each page. On page three the company tells some of the reasons why pyrometers should be used for temperature regulation, and not least among these is the moral effect upon the workmen. If you have not already received a copy of this instructive catalog, you should by all means write for one.

⁂

"A Nice Cuban Shipment"

In the March issue of the "American Clay Magazine," The Hadfield-Penfield Steel Co., Bucyrus, Ohio, tell of an interesting shipment of clayworking machinery which they have made to Cuba.

The machinery will equip a modern plant on the islands, and an unusual feature of the shipment is the fact that the cars on which the macinery is loaded are cars for use in Cuba. It so happened that an order for railway cars was going to Cuba at the time this machinery was ready, and so the Cuban cars were routed by the way of Bucyrus and were set off in the yards of The Hadfield-Penfield Steel Co. for loading.

In this way they will be taken, loads and all, to Cuba without reloading at the point of embarkation.

⁂

More Aggressive Sales Policy for Barber-Greene

H. S. Greene has been elected vice-presiden in charge of sales for the Barber-Greene Co., Aurora, Ill.

Mr. Greene comes from the National Carbon Co., of Cleveland, Ohio, where for several years past he was assistant sales manager. He is a brother of W. B. Greene, vice-president and treasurer of Barber-Greene Co., and he has been a director of the company for some time. This move is one step in a more aggressive sales policy planned to meet present conditions.

⁂

G. V. Nightingale is now representing Charles Engelhard, Inc., pyrometer manufacturers, in the Chicago and Middle Western territory. For the present his address will be 347 N. Kensington Avenue, La Grange, Ill.

BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

HOME SAVINGS PLAN AIDS MATERIAL MANUFACTURER

GREATER than any other obstacle confronting the home builder, is the problem of financing the construction of his home. It is not so hard to create a desire on the part of a citizen to own his own home. Anything that can be done to simplify the raising of funds and financing a home is obviously then welcomed with open arms.

The Corn Exchange National Bank of Chicago inaugurated such a plan which first creates the desire in the mind of the individual for a home of his own; second, a plan for establishing habits of thrift and systematic saving so that he may be in a position to pay from his own funds a sufficient proportion of the cost to make the lending of the balance, upon a mortgage covering the property, a safe and desirable investment, has been devised.

The plan is a very simple one and differs very little from an ordinary savings account. The main difference is that a home owning "atmosphere" is created and the "own your own home" note is emphasized thruout. As soon as the account has been opened and the initial deposit has been made, the home saver is given a beautiful book containing pictures and plans of twenty attractive homes, the pictures being printed in colors and the entire book gotten up in handsome style. To prevent the tendency of withdrawing funds or to become discouraged and discontinue making deposits, follow-up work is carried on by the bank which includes the sending of a monthly bulletin giving information on different subjects and supplying additional plan suggestions.

When the savings of the prospective home owner has reached the point where he is ready to build, the bank will obtain for him at cost, the necessary plans and specifications. Advice will be given by competent authorities as to the buying of a lot, desirable location, the educational, recreational and religious facilities, and so forth. In short, the prospective home builder is helped and safeguarded in every point against the pitfalls that so often beset the unwary buyer.

This plan is such an admirable one that it might be extended to all parts of the country with ease and to the advantage of all concerned. The bank benefits since it secures additional deposits and depositors, the citizen benefits since he promises himself a home of his own, and the manufacturers of building materials profit because it means increased business for them.

Clay products manufacturers might well speak to the bankers in their territory and suggest to them the introduction of an "Own Your Own Home" savings plan whereby the prospective builder may be aided in the financing of his home. Then when a prospect desires to build and does not have the funds, suggest to him that he start an account at the bank which has a home savings plan.

* * *

ARCHITECTS' AND NEWSPAPERMEN'S DAY ON THE CLAY PLANT

FAMILIARITY does not always breed contempt. Frequently after one inspects a factory where goods are manufactured one gains a better appreciation of the problems that industry is confronted with, its limitations, and it becomes discernible why prevailing prices are necessary. Furthermore, merits of the product and its good points are often brought out by such an inspection.

Announcement was recently made by the Common Brick Manufacturers' Association that the members of that organization proposed to exclaim a certain date as Newspapermen's Day. The object will be not so much to try to influence newspaper reporters and editors into printing news of brick manufacture or construction, but to familiarize them with its manufacture.

The idea is a splendid one and should be followed by every clay product manufacturer in this country and Canada. Right now when construction activity is about on the upstart and prices are still somewhat in question, would be an opportune time to hold a Newspapermen's Day. When the scribe sees the huge piles of coal on the plant and sees the red hot kilns he will realize that it costs money to make clay ware and will be less inclined to listen to the foolish and misleading statements made by those irresponsible persons who are constantly misguiding the public by their remarks.

Right now, the newspapers are interested in construction; they are interested in clay products and particularly the new brick hollow wall. It should be a comparatively simple task for the manufacturer to secure their attention. It will be worth while for the clay plant operator to go considerably out of his way to entertain the newspapermen. Also, while acting as hosts to the scribes it might not be amiss to invite the architects out to the factory too.

* * *

TRADE ASSOCIATIONS AND GOVERNMENT SUPERVISION

THE FINAL REPORT of the War Industries Board was recently submitted by Bernard M. Baruch, its chairman. He strongly advocated in his report that the government should encourage permanent and intimate associations in industry under federal supervision. Such cooperation, he contends, of members of industrial groups, as existed during the war, would, if perpetuated, work for the public benefit by assuring an abundance of goods at reasonable prices.

In the opinion of Mr. Baruch, the present government business policy of enforced isolation and costly competition, is not conducive to the general welfare. He favors instead, a government agency to "promote the useful and check the harmful work of combinations in industry." For this purpose, he recommends that suitable legislation be provided to perpetuate the industrial group represented by various war service committees, and the related association of manufacturers.

"These associations as they stand," the report reads, "are capable of carrying out purposes of the greatest public benefit by rules to eliminate wasteful multiplicity of styles and types of articles, to cultivate public taste for rational types of commodities, and to tend to localize production in places best suited for it."

The report merits the closest scrutiny of able-minded industrial leaders; for the facts in the case are very obvious to thinking men. The day of isolation is of necessity receding, and must soon pass. Consolidation of the common interests of business, and an ever closer association of industrial groups, are imperative, both for the general welfare and for the good of business as a whole. Certain points in the above report bring these conclusions emphatically to the attention of clay products manufacturers.

"A government agency," for instance,

"to promote the useful and to check the harmful work of combinations in industry," would, if it functioned impartially, have prevented, or at least greatly remedied, the present enforced building inactivity,—an inactivity that represents the difference between prosperity and economic stress, not only in the clay products field but in numerous industrial groups that are so closely allied to the clay products industry that when one is pinched they all feel the pain. Such institutions would not be subject to the gambler's whim that rules the stock exchange or occasionally dictates the policy of certain sources of finance. It were better for business to get together, "while the going is good," and to thresh out a policy, with the aid of the government, consistent with its own good and the public welfare, than to perpetuate a condition that leads to incessant bickering among the important industrial groups, and which, along with the remainder of its harmful tendencies, is certain to stimulate a growing uneasiness in the attitude of the public toward business in general and to furnish more wind to the bellows of radicals.

Let us repeat, consolidation, and an ever closer association of industrial groups, are imperative, and the government should be prevailed upon if possible, to provide for a continuance of the service performed by the war industries board, provided that the latter is so constituted that it will be in a position to work hand in hand with the related association of manufacturers. Obviously, such cooperation between business and the government would in itself, suffice to bring about a number of needed improvements and to restore public confidence and goodwill.

That which the clay products manufacturer is more interested in, is the disposition of *standardized* commodities. Never was there such a *vital* national need for these very commodities. Over a million homes are needed in the United States at this minute to provide suitable, sanitary housing conditions. Thousands of miles of paved highways are needed to give the farmer ready access to his market, and to provide means of rapid motor transportation of perishable goods to offset the failure of the railroads in any shipping emergency.

Certainly these are problems of general concern, for they involve public health, public life, property and prosperity. They are also problems that, to a certain extent, would, or should, be up for discussion and adjustment of the conferences of Mr. Baruch's proposed "government industries board" with the related association of manufacturers. In this manner, perhaps considerable immediate headway could be made in eliminating the superficial obstacles that have been thrust in the path of the proposed national building program; and if these impediments can be removed, the so-called "period of uncertainty," due to the regeneration of our industries on a peace-time basis, would disappear largely as if by magic, business would thrive, and the "public benefit" would be served to the *nth* degree.

* * *

ROADS SHOULD BE BUILT

WE ARE ENTERING the construction season with a definite road program still undecided. The reason for a lack of action is largely due to the general feeling that road costs are too high. However, altho the cost of building roads is enormously high and it is well to endeavor to bring down construction costs, the road program should go forward wherever there is an approach to fair conditions.

Work is needed by thousands of men. The railroads are lacking traffic and should be given the road material to carry now instead of later when other commodities may need all their facilities. The money spent in road building will not only give us good roads but will employ men now out of work, increase the purchasing power of thousands, and give aid to industries now at a standstill.

The motor truck has entered traffic to stay and no progressive state or community can afford to neglect highway provision for it. The truck has demonstrated its practical value in short hauls as well as in long ones. Even on dirt roads its value has been shown, but it has been most clearly shown on hard roads.

The public has condemned the motor truck as a road destroyer. Yet, everything we eat, wear, use, buy, sell or play with, has to be hauled over a road at some stage of production or distribution. Bad roads throttle distribution and increase commodity costs. Thus, on one hand you have increased road costs and on the other increased cost of goods. The solution to the problem is the construction of good hard pavements designed to withstand heavy traffic, to wear long and to require the least repair. Undoubtedly, that road is the brick paved highway.

* * *

CONDITIONS IMPROVING

AGAIN the Fidelity and Deposit Co. of Maryland, has made a general survey of national conditions. Honorable David F. Houston, who analyzed the review, says the survey indicates that the business world is still feeling its way, but with increasing confidence and with the conviction that the worst has passed. The country has successfully borne a strain caused by a most notable drop in prices, particularly of a vast volume of raw materials, and has weathered a trying period of liquidation.

The survey, which contains data obtained by over a thousand representatives of the Fidelity and Deposit Co., points out that the country is better off today than it was three months ago and that manufacturers in growing numbers are planning definite production schedules. It also revealed a tendency towards increasing building operations. This, however, is to be expected since there is little doubt but that the two go hand in hand. Increased business under the present economical situation of the country, is largely dependent upon a revival of building operations.

Since the data for the survey was collected, there have been some notable changes in events. Factors favorable for greatly increased construction activity, such as wage and material reductions have been announced. Millions of dollars worth of construction work that has been lying dormant waiting for lower prices, will now go forward. This means that those industries allied with the building industry will be again active. Conditions will improve in every industry and general business will, of course, be affected. Fortunately, for the clay products industry, it is the manufacturer of basic building commodities that will be among the first and most favored ones, to be affected by increased business because of the vast volume of building that will go forward.

The extent to which the clay products industry will be favored, will depend largely upon the public's attitude towards the product of this industry. This in turn will depend a great deal upon the efforts the clay products industry puts forth to obtain business.

HOLLOW TILE SHOWN BIG FUTURE *in* FARM FIELD

Hon. E. G. Meredith, Ex-Secretary of Agriculture Tells Delegates at Hollow Building Tile Association Convention of Huge Amount of Construction Work Farmers Are Planning — Association Makes 100 Per Cent Gain in Membership During Past Year

APPROXIMATELY EIGHTY MANUFACTURERS of hollow tile, and others, were present at the third annual meeting of the Hollow Building Tile Association, held at the Hotel La Salle, Chicago, March 30 and 31. This association has grown tremendously in the last year, increasing its membership very nearly 100 per cent. At present there are very close to 100 members on the association's roster. The Hollow Building Tile Association has grown from infancy to lusty childhood and has acquired a voice which is making itself heard in every part of the country.

The convention was formally opened with an address by the president, H. M. Keasbey, of the National Fire Proofing Co., New York. Mr. Keasbey extended a hearty welcome to all manufacturers, members and guests present and told those assembled something of the history of the hollow tile industry and the association of which he was head during the past year. Mr. Keasbey said he believed that an organization of the nature of the Hollow Building Tile Association was not only beneficial but a necessity to the hollow tile industry. When business again opens up we will move into a great era of prosperity, of which hollow tile will get its goodly share.

THE POWER OF ADVERTISING

An interesting talk on "Advertising and Merchandising" was given by James M. Irvine, of the Curtis Publishing Co. The talk proved to be a most enlightening discourse on what advertising can accomplish and what it has accomplished in the case of several Pacific Coast associations.

In the line of hollow tile much is still to be done. The public has not been fully informed of the possibilities of hollow tile as a material for homes, Mr. Irvine said. The value of advertising lies chiefly in the way the space is utilized. In order to get best results the story must be told in simple, straightforward, yet effective, manner and so that everyone, the most ordinary man or woman who reads the advertisement, will understand.

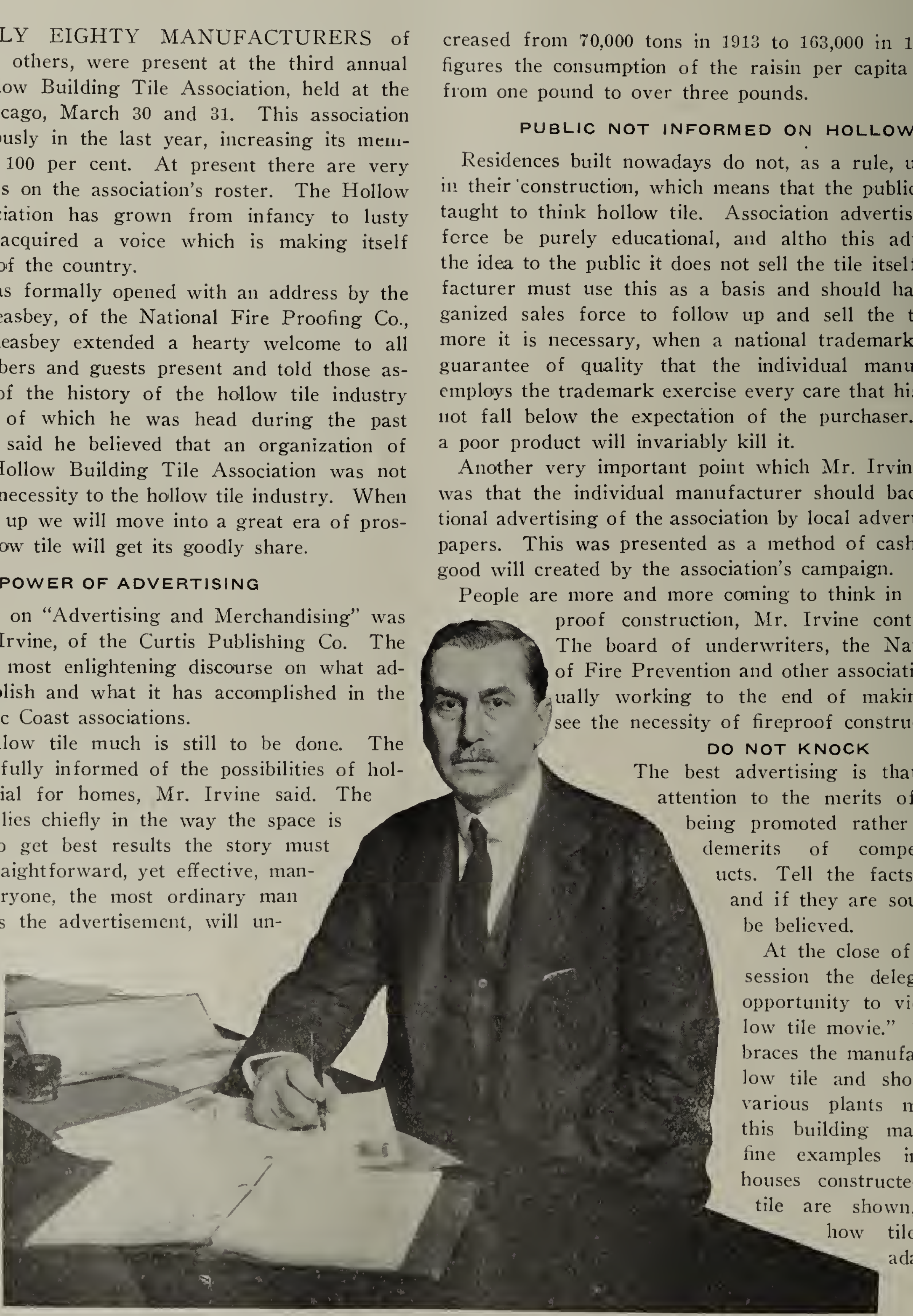
Mr. Irvine clearly brought out the constructive force of advertising in citing the case of the raisin growers' association on the Pacific Coast. Thru advertising in national publications and showing the public how the raisin might be used the production of this delicacy was increased from 70,000 tons in 1913 to 163,000 in 1920. In other figures the consumption of the raisin per capita has increased from one pound to over three pounds.

PUBLIC NOT INFORMED ON HOLLOW TILE

Residences built nowadays do not, as a rule, use hollow tile in their construction, which means that the public has not been taught to think hollow tile. Association advertising must perforce be purely educational, and altho this advertising sells the idea to the public it does not sell the tile itself. The manufacturer must use this as a basis and should have a well organized sales force to follow up and sell the tile. Furthermore it is necessary, when a national trademark is used as a guarantee of quality that the individual manufacturer who employs the trademark exercise every care that his product does not fall below the expectation of the purchaser. Advertising a poor product will invariably kill it.

Another very important point which Mr. Irvine brought out was that the individual manufacturer should back up the national advertising of the association by local advertising, in local papers. This was presented as a method of cashing in on the good will created by the association's campaign.

People are more and more coming to think in terms of fireproof construction, Mr. Irvine continued to say. The board of underwriters, the National Society of Fire Prevention and other associations are gradually working to the end of making the public see the necessity of fireproof construction.



Hon. E. G. Meredith, Ex-Secretary of Agriculture, Who Delivered a Stirring Speech on the Need for Better Farm Buildings.

DO NOT KNOCK

The best advertising is that which calls attention to the merits of the product being promoted rather than to the demerits of competitive products. Tell the facts as they are and if they are sound, they will be believed.

At the close of the morning session the delegates had an opportunity to view the "hollow tile movie." The film embraces the manufacture of hollow tile and shows views of various plants manufacturing this building material. Many fine examples in colors of houses constructed of hollow tile are shown, illustrating how tile readily adapts itself to any style or shape. The film shows in an impressive manner how much more comfortable a home built of hollow tile is than the ordinary frame house. The air spaces in the tile form an insulation which stabilizes the temperature and makes the house warm in winter and cool in summer.

A rare treat was afforded the delegates at the afternoon session. Hon. E. G. Meredith, former secretary of Agriculture, gave a most instructive talk on the "Need of Better Farm Buildings." Mr. Meredith said that there can be no question of the advisability of building permanent buildings on the farm. In other countries permanency is usually the first consideration, but such has not been the custom in our country. The use of hollow tile could undoubtedly be increased greatly by devoting considerable attention to the design of farm buildings and the erection of structures which would more adequately meet the farmers' requirements.

The Big Four at the Convention. From Left to Right They Are: H. M. Keasbey, President; Hon. E. G. Meredith, Ex-Secretary of Agriculture, Speaker; James T. Howington, Vice-President; E. R. Sturtevant, Secretary.

HOLLOW TILE IDEAL FOR FARMER

The farm offers hollow tile manufacturers the greatest possibilities in the marketing of this commodity, Mr. Meredith went on. Hollow tile can be made to suit practically every need of the farmer and there should be no reason why the farmer can not be made to see that hollow tile offers him exactly what he wants by giving him fire protection and buildings which will last practically forever.

A questionnaire sent to farmers in what is commonly known as the corn belt, that is states from Ohio to Oklahoma, revealed the fact that on an average of thirteen per cent. were intending to build homes; twenty-three per cent. barns and seventeen per cent. to erect silos. Of the above mentioned farmers, eighty-five per cent. were going to build of lumber; forty-nine per cent. of cement; five per cent. of brick; ten per cent. hollow tile; one per cent. cement block; and three per cent. stone.

In the foregoing tabulation it can be seen that the farmer intending to build will build of the material with which he is best acquainted, witness the predominence of lumber. Unless something can be done to convince at least a part of the eighty-five per cent. that hollow tile is more suited to their needs, they will most certainly build of frame. Tile, Mr. Meredith said, is not nearly so well known as lumber or cement and therefore its use is correspondingly infrequent.

$10,000,000,000 VALUE OF FARM BUILDINGS IN 1920

The value of farm buildings in the corn belt in 1900 was $1,700,000,000, this increased to $3,000,000,000 in 1910 and reached the $10,000,000,000 mark in 1920, tho the last figure is somewhat indefinite as the statistics have not been correctly established as yet. Figuring the life of the buildings to be forty years, replacements for these buildings would amount to approximately $250,000,000 yearly. If hollow tile manufacturers could secure just ten per cent. of this business it would mean an increase in the yearly output of hollow tile of twenty-five per cent., as the present total output is approximately $20,000,000.

Of 2,300,000 farmers in the corn belt, twenty-two per cent. are contemplating the erection of silos. This means that approximately 510,000 silos will be built in the corn belt alone. If hollow tile could secure but ten per cent. of these silos, figuring the cost of tile for one at $100, it would mean business to the extent of $5,000,000.

Ex-secretary Meredith stated that it was his opinion that the present great depression in business of every description was due chiefly to the great loss the farmer sustained by the sudden and great drop in the price of his products. There are probably 3,000,000 men idle at present who would not be if the farmer were enabled to purchase the commodities which he needs in the prosecution of his business. Practically every line of business, if followed thru down to its source, would be found to be ultimately dependent upon the farmer. The welfare of the country and the welfare of the farmer are synonymous.

NORTH DAKOTA BIG FIELD FOR HOLLOW TILE

Another great market for material for the construction of silos is North Dakota. In this state thirty-three per cent. of the farmers wish to build this necessary farm adjunct. Seventeen per cent. of the farmers in Indiana wish to build silos. If this is true, and it undoubtedly is, there is every reason for optimism among tile manufacturers and it is merely necessary for them to open the farmer's eyes to the advantages of hollow tile in the construction of his buildings, to greatly increase the yearly volume of business.

The lack of interest among American citizens as to governmental affairs was decried by the ex-secretary. He stated that the appropriations for research work in agriculture were woefully inadequate and that as a result it was holding back not only agricultural development but also general business prosperity.

Dr. E. W. Washburn, head of the Department of Ceramic Engineering, University of Illinois, who followed E. G. Meredith on the program, supplemented the remarks of the former Secretary of Agriculture by adding that of the total governmental expense, ninety-two per cent. is for appropriations having to do with war appropriations either in preparation for wars or in the readjustment period following a war. The remaining eight per cent. is distributed among the many peaceful pursuits.

ENGLAND DOING EXTENSIVE RESEARCH WORK

Dr. Washburn told of the lesson learned by England, who is now appropriating enormous sums for research work. England appreciates the value of scientific research following its many experiences during the war which brought to light the need for investigation. One unique account was told of how England, not appreciating the situation, had permitted lard to be omitted from the contraband list of substances going into Germany. Germany was making capital out of this, since it was using the lard for making glycerine and this substance is one of the ingredients of nitro-glycerine. England, however, did not know what was going on.

An analysis reveals that it is usually among the oldest industries that one finds a lack of application of science. Metallurgy, Dr. Washburn said, was perhaps the notable exception. The reason for the above condition was ascribed by Dr. Washburn to the fact that in some of the old industries, like the clay products business, there were no large corporations that could undertake extensive research, which costs considerable money. The steel industry, however, resolved itself into a few large corporations of sufficient size to conduct research work on a large scale.

POSSIBILITIES OF RESEARCH WORK

The solution to the problem is cooperative research, such as is being planned by the Hollow Building Tile Association, in conjunction with other national clay products organizations, said Dr. Washburn. He then went on to tell what might be done in research work of interest to hollow tile and brick manufacturers.

The oxidation of clay altho a very important topic, has never been studied. No data is available and yet it is a vital subject in clay products manufacture. The rate at which it is best to oxidize, the temperature and the heat required in the ware are important factors and should be determined by investigation that can be conducted in the laboratory.

The heat required to burn a clay product, i. e., not the amount of heat which it is necessary to put into the kiln, but the actual heat required by the clay to convert it into a burned piece, should be studied. Altho different clays will vary in their requirements, the method of ascertaining these facts and other data can be unearthed that will be of great value to any manufacturer regardless of the nature of his clay.

BANK PROMOTING "HOME OF YOUR OWN" IDEA

John W. Rubecamp, of the Corn Exchange National Bank, Chicago, originators of the "A Home of Your Own" plan, explained the bank's plan to the delegates, who displayed considerable interest in the subject. Since the plan was launched on February 1, this year, the bank has enrolled between 3,000 and 4,000 members under the "A Home of Your Own" idea. At the "Own Your Home" Exposition held at the Coliseum over 200 applications were received on the first four days.

We are at present in the midst of an epidemic of "own your home" fever and as everyone is, or should be, interested in the building of homes, every effort should be made, not to stop this germ from spreading, but rather to make its bite more vicious and the effect of it more permanent.

The plan is a simple one and simply means that the client starts an account at the bank into which he agrees to pay a certain sum a month, $5 at the minimum, until he has sufficient funds to make the first payment on a home. He is allowed the regular rate of interest and the account differs none from the regular savings account, except that the customer agrees to make certain monthly deposits. The bank goes no further than this, altho it does give advice at cost as to realty sites and other matters incidental to building. It also furnishes a book of plans.

PRESENT GROVER GALVIN WITH HOME

An important feature of the "A Home of Your Own" plan is the monthly supplement that is sent out regularly, which keeps the prospective builder "pepped up" constantly. These supplements also augment the suggestions given in the original plan booklet. Before closing, Mr. Rubecamp presented Grover Galvin with a home, inasmuch as Mr. Galvin admitted not having a home of his own. The home was a miniature savings bank, such as is given by the bank to its members of the "A Home of Your Own" plan.

At six o'clock a smoker and dinner was held by the association at the Hotel LaSalle, to which all members and guests were invited. An excellent dinner was served, after which those present sat back in their chairs and braced themselves for the entertainment which Mr. Sleeper and his committee had provided. "Chicken" was very much in evidence, not only on the menu, but the entertainment also contained several fine specimen of this versatile bird.

REPORT OF THE SECRETARY

The session held on the morning of March 31 was devoted exclusively to business matters. The minutes of the previous meeting were read and approved after which the secretary, E. R. Sturtevant, read his annual report, in which he summed up the activities of the association for the past year. He complimented very highly the work of the board of directors whose progressive spirit and whole-hearted cooperation had been a vital factor in the growth and progress of the association. J. S. Sleeper, advertising manager for the Hollow Building Tile Association, came in for his share of praise for the excellent work he did in conducting the publicity affairs of the association, and also for his efforts in planning the present convention. Mr. Sturtevant was very enthusiastic in his praise of the splendid cooperation given by the entire force in the secretary's office.

The year of 1920 was one of great growth in the hollow tile industry. Statistical information reveals the fact that the industry has tended toward a constantly increasing market and more extensive use. Immense quantities of literature have been put out by the association which has aided in the extension of the field for this material. Much of this literature has been in the nature of educational work to acquaint the user as to just how hollow tile fits in with his needs. Advantages in this type of construction and other features have been emphasized in all books and leaflets sent out by the organization.

COMMITTEE ON COST ACCOUNTING DOING GOOD WORK

The traffic committee has been of material aid in working for the interests of the association. In conjunction with two other clay associations the Hollow Building Tile Association presented the most comprehensive data before the Interstate Commerce Commission that has ever been witnessed by that body. It is felt that the ultimate outcome of the case will be of great benefit to the industry.

A committee on cost accounting has been active in the investigation of other industries with a view of ascertaining the feasibility of applying cost systems used in those industries, in the hollow tile business. A report from this committee is expected to be ready shortly.

During the past year there has been a committee organized for the purpose of cooperating with the American Society for Testing Materials. This committee is now preparing specifications on strength and load tests for hollow tile. Other tests to be conducted are freezing and thawing tests and the committee is also doing all it can to lower the cost of tile construction.

COLLECTING TECHNICAL LIBRARY

A fellowship was established at the United States Bureau of Standards by the Hollow Building Tile Association last August to study the resistance to fire of hollow tile and other fire tests. The board of directors has just approved the appointment of another investigator so that the work can be carried on more effectively and expeditiously.

Another thing the association is doing is the collecting of a library on technical subjects, which will be available to all members and will undoubtedly prove very helpful.

Literature on hog houses, dairy barns and other small buildings which usually do not have an architect's service has been prepared and a plan service provided that would help those who are interested in these types of structures.

Large sums of money have been spent in advertising space in various national magazines with the view of keeping the product before the attention of the public. Many notable papers have been used in the different fields, such as architectural, engineering, farm journals, and in papers that reach the building supply dealer, especially *Building Supply News*. Approximately $83,330 was spent in 1920 for space in these various magazines.

ABUNDANCE OF LITERATURE DISTRIBUTED

The amount of literature sent out by the association during the course of a year has been considerable. Over 1,200 pieces a day, on the average have been mailed from the headquarters. The year's total runs well over 200,000 pieces.

A plan service whereby the building material dealer could cooperate with the association in supplying customers with house plans was inaugurated a short time ago and was found very successful right at the start. Altho the service was started but sixty days ago over 350 building supply dealers have used the plan service and electros furnished them by the Hollow Building Tile Association to use in their own advertising. The association feels that the building supply dealer is a very vital factor in the distribution of hollow tile and is doing all it can to cultivate his cooperation. With this in mind, the directors of the association met recently with those of the National Builders Supply Association to the great mutual benefit of both organizations.

ASSOCIATION TO GIVE SHORT COURSES

The question of research work has been acted upon, Mr. Sturtevant continued. In conjunction with other associations a research bureau has been formed and will be financed by these clay products' associations. The program of expenditures calls for $10,000 to be expended in the first two years in which the research work is going on.

(*Continued on Page 598*)

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PRIVATE HOME CONSTRUCTION TAKES LEAD *in* REVIVAL *of* BUILDING *in* EAST

IN THE FACE of what now appears to be the development of a nation-wide building construction movement of considerable magnitude building material distributors find themselves slipping into a market vacuum that is causing them considerable concern, says the Dow Service Daily building report, March 26, 1921.

What seemed to be insurmountable obstacles to the speedy progress of the 1921 building movement a few weeks ago have dissolved before the glare of demand for space accommodation. These barriers were chiefly represented by tightness of mortgage money, building material supply at mill centers and high cost of labor. Impatience has come to be the market menace of the moment.

Building material manufacturers have been accustomed for so long to cater to the big-order markets that they are still prone to shape their production schedules upon this class of business for the early part of this year. This sort of business, however, is not immediately in sight, altho it is discernible in the form of projects now entering upon architects' boards. The preponderant volume of demand for building materials until June will be for comparatively small-order construction, such as private home. It takes many such structures to take the place in building material requirement of a single large commercial project, which type of construction has been beyond even serious contemplation while money rates were out of the reach of ordinary investors, cost of materials were prohibitive and labor indifferent.

MARKET VACUUM IN DEVELOPMENT

Since last autumn this big-order business has been out of the market. Commercial projects started before that time are just finishing up. When work on them is completed there will not have developed enough new work to call for materials in big-order lots or to supply employment for labor in sufficient volume to fully take up the sag.

To be sure there is a rush of habitation building under way, but it is so far only in preliminary stages in architects' and engineers' hands. A month or more may elapse between preliminary sketch of a building and the actual award of contract and call for sub-contracts, depending upon the size of the operation, and since the turn in the tide of building affairs is still less than a month old, it is evident that this market vacuum about which the building material production and distribution industries are at present complaining is only in process of development.

A similar vacuum occurred immediately following the signing of the armistice in the matter of labor supply. It was caused by the outflow of raw labor and the enlistment of building trade artisans before and during the war. It resulted in the inflation of labor values just as the present vacuum in building material supply and distribution will again advance the value of building materials to consumers entering the market later in the year when all sorts of building construction projects will be vieing with each other for delivery schedules instead of the actual material.

During the labor vacuum employers vied with each other for all kinds of help. The basic conditions creating the present developing stringency are identical with those which developed the premium market for labor last year.

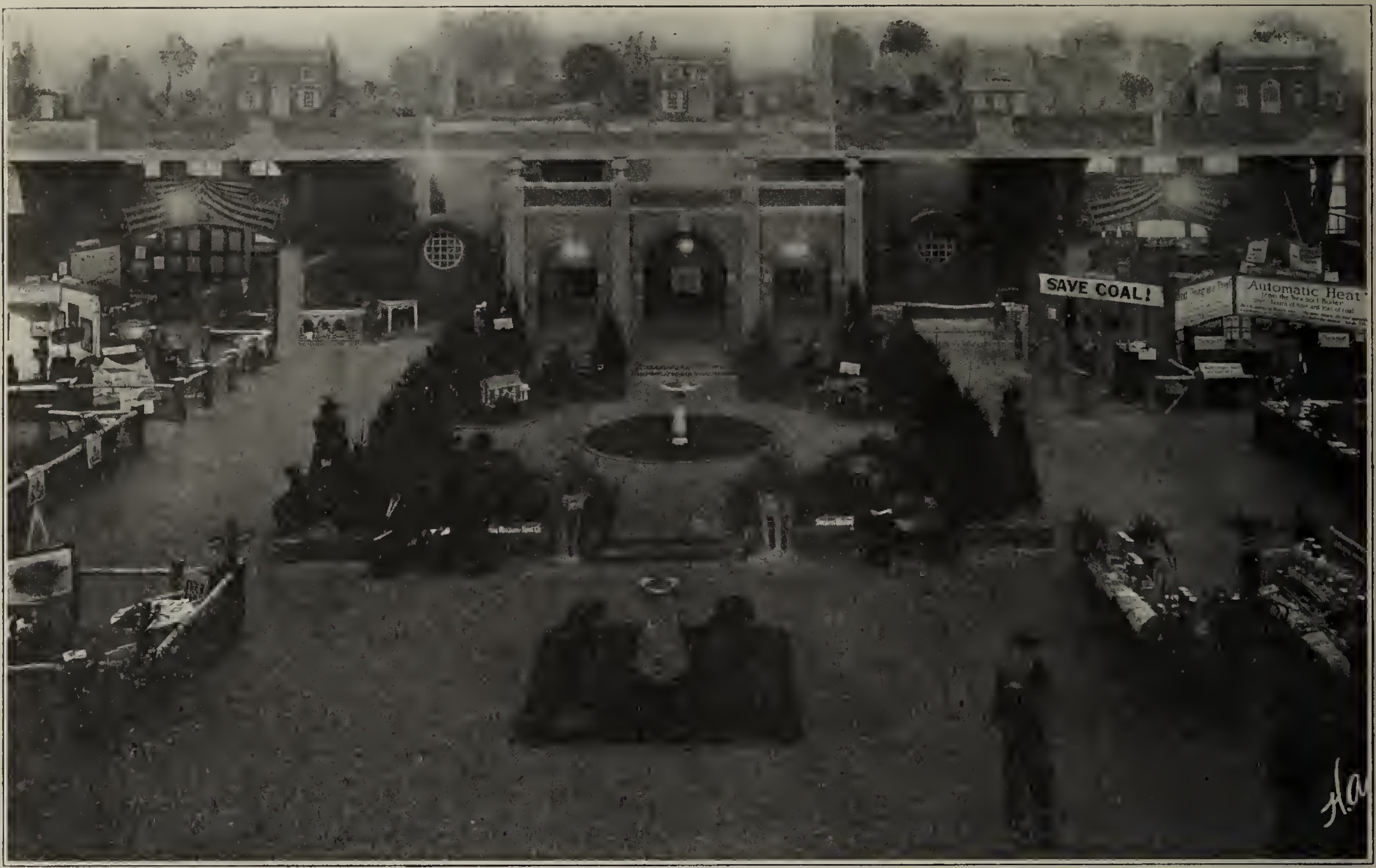
MATERIAL MANUFACTURERS START OPERATIONS

During this interim of waiting for the actual building material market to develop building material manufacturers are throwing in new capacity in anticipation of the later-year market and to take care of road requirements. Four lettings for road work alone last week accounted for a million barrels of cement.

All but three cement mills in the Lehigh Valley district suppiying this market have resumed operations. Structural steel plants are taking more business for building requirements and are therefore throwing in more capacity. Lumber mills in the south are resuming operations in full satisfaction that the market will absorb their stocks before the half-year turns. Calcined product mills, like lime and plaster, are throwing in more kilns based upon increasing inquiry.

The building material market vacuum of 1921 will be as memorable as the labor vacuum of last year, but not so protracted. Its sinister effect upon construction costs will be softened by the fact that prospective builders are forewarned of its existence and of its influence upon future buying conditions.

It is giving the prospective purchaser of building materials a chance to buy cheap. If road-building requirements continue and should be supplemented by pyramiding building construction requirements, as a result of the decided change in the attitude of the money market toward building construction, this vacuum that is now the sole influence in keeping building material prices comparatively low will be quickly filled by speculators purchasing materials in anticipation of later requirements.



A Front View of the Beautiful Exhibit of Face Brick at the Exposition. Note Miniature Brick Houses in Garden.

BRICK PREDOMINATES

Public Greatly Interested in the Housing Problem-- Chicago, Where "Own Your Home" Exposition Was He

THE FIRST annual "Own Your Home" exposition held in Chicago, came to a successful close April 2, 1921. Considering the universal shortage of homes, the high rents and the tremendous interest the general public is taking in home building activity, the exposition was held at a most opportune time. This was borne out by the excellent attendance during the week of March 26 to April 2. Every kind of building material was on display; building and loan associations occupied considerable space; real estate men and home builders were in evidence, and house furnishings and equipment received attention. Exhibits of brick predominated at the exposition.

Most of the floor space of the big Coliseum in Chicago and the annex was occupied by some exhibit or other. The enormous number of drawings, several hundred altogether, embracing every conceivable kind of small house, made it possible for visitors to find suggestions of plans for homes which for price, arrangement and size, would exactly suit their needs.

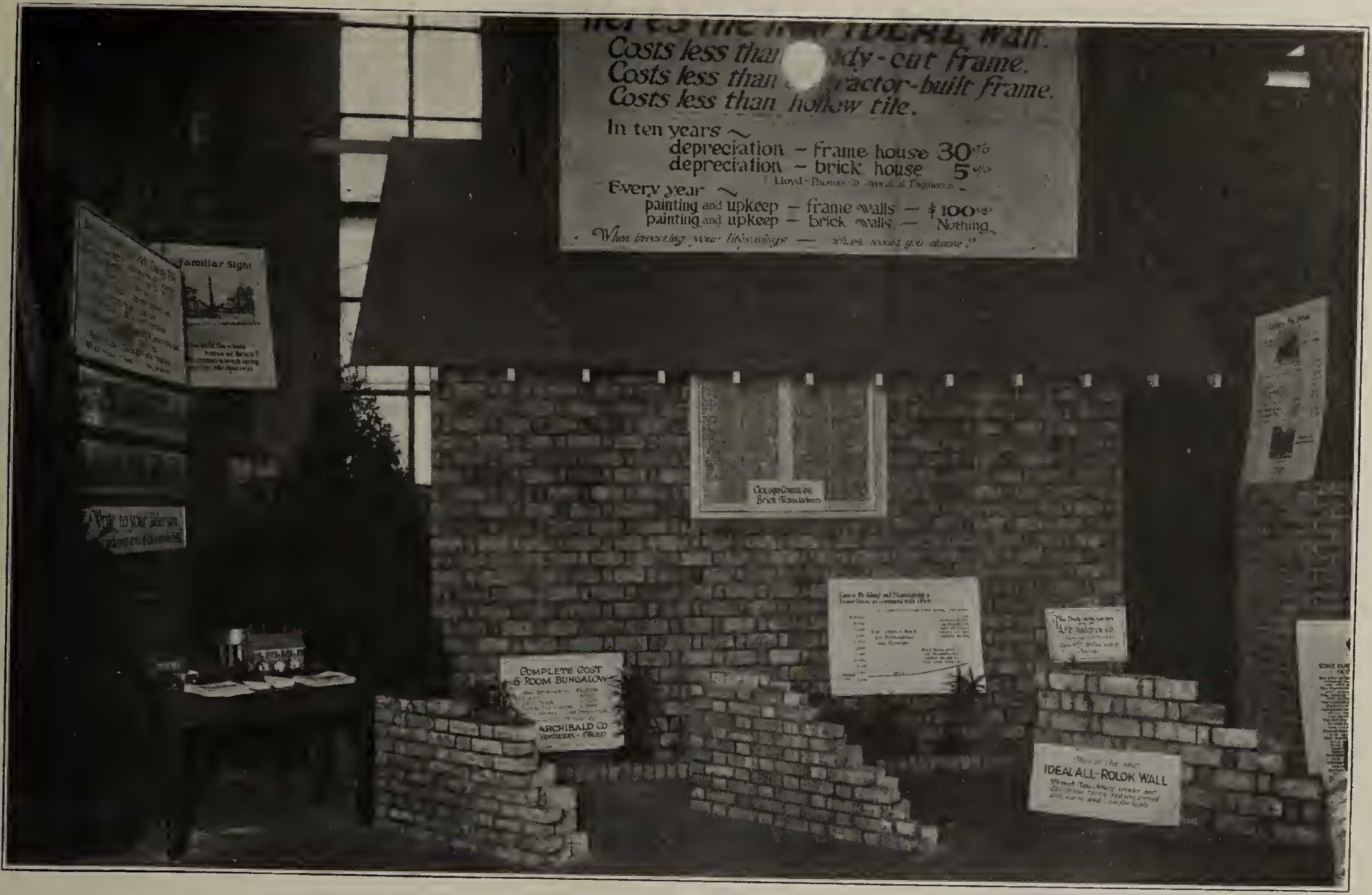
CLAY PRODUCTS DISPLAY IMPRESSIVE

The clay products industry was much in evidence. Both face and common brick had elaborate exhibits and unquestionably the most attractive. The public just flocked around these exhibits, which had more than ordinary interest for them and it is doubtful whether or not other products received the attention that did clay products. A part of the face brick exhibit was a beautifully designed facade resembling the entrance of a large, commodious brick mansion. The brick for this facade were furnished by manufacturers from various centers. All the various shades and textures of brick were blended together in artistic fashion to make a harmonious portal which left an indelible impression upon the mind of every visitor at the exposition.

A beautifully terraced garden space with brick steps and walks lead directly to the face brick facade. Cleverly and prettily arranged in this garden were four miniature brick houses constructed on the scale of one inch to the foot. The houses were models of designs which had won honorable mention in a small house design prize contest. They were constructed of tiny brick and were illuminated. The green ground plot and shrubbery surrounding these miniature houses set them off to considerable advantage.

LABOR IS DONATED

There were also several booths located along the east wall of the Coliseum devoted to face brick displays. These represented panels, doorways and arches showing various colors and textures, and the blend obtained with various colored mortar joints.


Costs less than …dy-cut frame.
Costs less than …ractor-built frame.
Costs less than hollow tile.
In ten years ~
depreciation – frame house 30%
depreciation – brick house 5%
Every year ~
painting and upkeep – frame walls – $100.00
painting and upkeep – brick walls – Nothing
Familiar Sight
COMPLETE COST 6 ROOM BUNGALOW
ARCHIBALD CO
IDEAL ALL-ROLOK WALL

A Very Fine Example of the Brick Hollow Wall. A Part of the Chicago Brick Exchange Display.

t BUILDING SHOW

rong in Record Breaking Numbers to the Coliseum,
ecome Thoroly Inoculated With Home Owning Germ

The face brick exhibit represented the efforts of the Chicago Face Brick Association, the American Face Brick Association, and most Illinois and Indiana face brick manufacturers. Besides furnishing the brick the manufacturers also helped in a financial way to make the face brick display a success. Wm. P. Varney, of the Hydraulic-Press Brick Co., was manager of the clay products branch of the exposition and is deserving of considerable credit for his splendid efforts in directing the exhibits.

It is also gratifying in more ways than one, to know that the labor required in the erection of the face brick display was donated by the Bricklayers and Stone Masons Union Local No. 21, and the Hod Carriers, Building and Common Laborers Ex-Council of Chicago.

Of the individual exhibits, none attracted more attention than that of the Chicago Brick Exchange. This exchange is composed of a number of manufacturers of common brick in the Chicago district. Using common brick thruout, there was built an old Dutch kitchen with all the quaint fixtures that characterize it. The brick were smudged and laid irregularly, giving the exhibit an appearance of being a hundred or more years old with startling realism. It was fitted out with a large fire place in which were placed huge logs, the whole given a realistic appearance by red illumination. An old style pump, large kettle, candle sticks, and other furnishings tended to increase the genuineness of the exhibit.

"IDEAL WALL" ATTRACTS ATTENTION

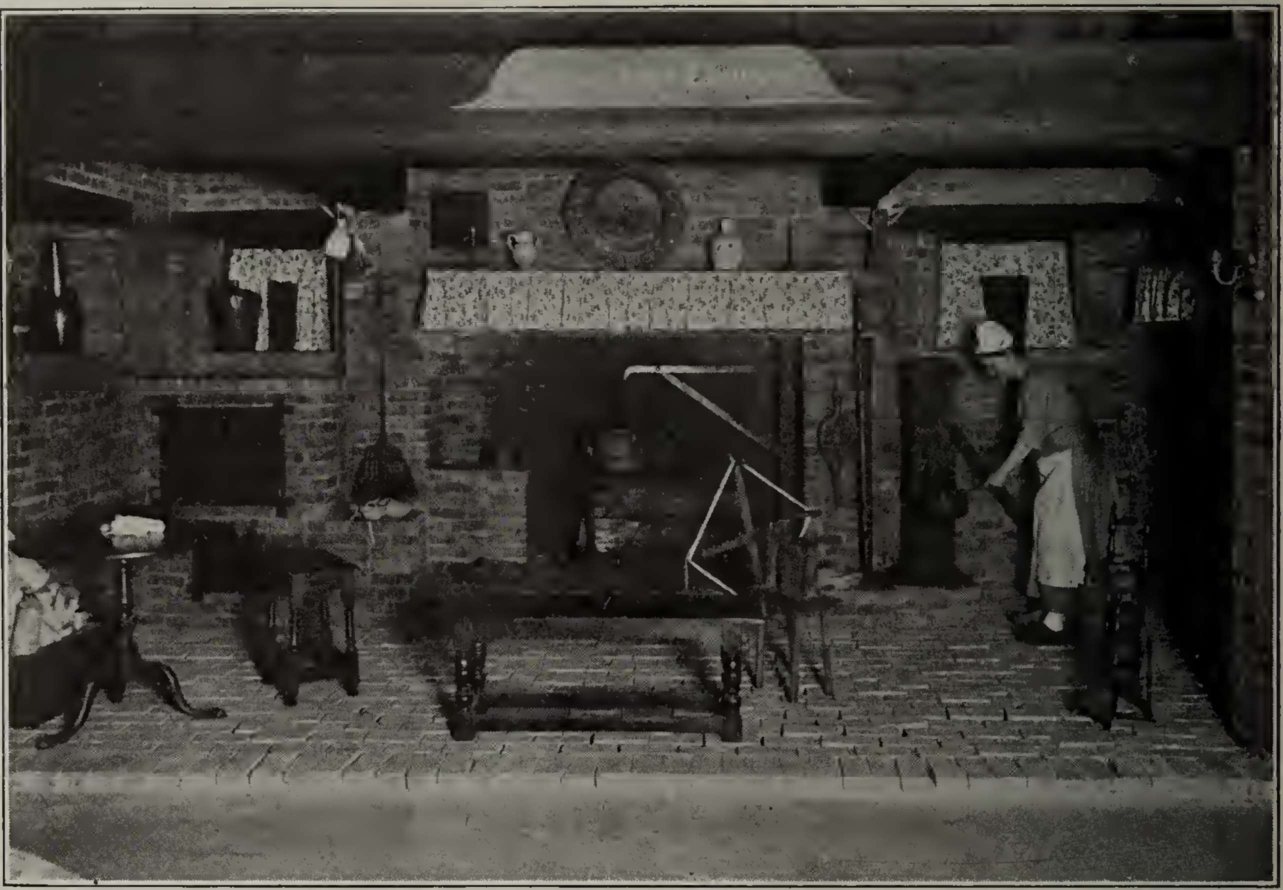
In the booth immediately next to the Dutch kitchen was exhibited displays of three sections of different types of the new hollow wall, portraying clearly the structural features. In addition to this, a section of a house was built of the hollow wall, or "ideal wall" as it is generally known, using the all row-lock type of construction. It is surprising how beautiful common brick—even Chicago commons, can be made to look when laid in the wall on edge, according to this method of wall construction.

Literature was distributed at this booth explaining the new hollow wall and placards were placed so the difference in cost of construction could be seen. One placard gave figures for various types of home construction based on the same design for a six-room bungalow, complete. The figures were guaranteed by E. L. Archibald, general contractors, and were as follows:

Ideal Construction	$6,333
Frame Construction	6,516
Solid Construction	6,523
Hollow Tile Stucco	6,348

W. S. DICKEY HAS AN EXHIBIT

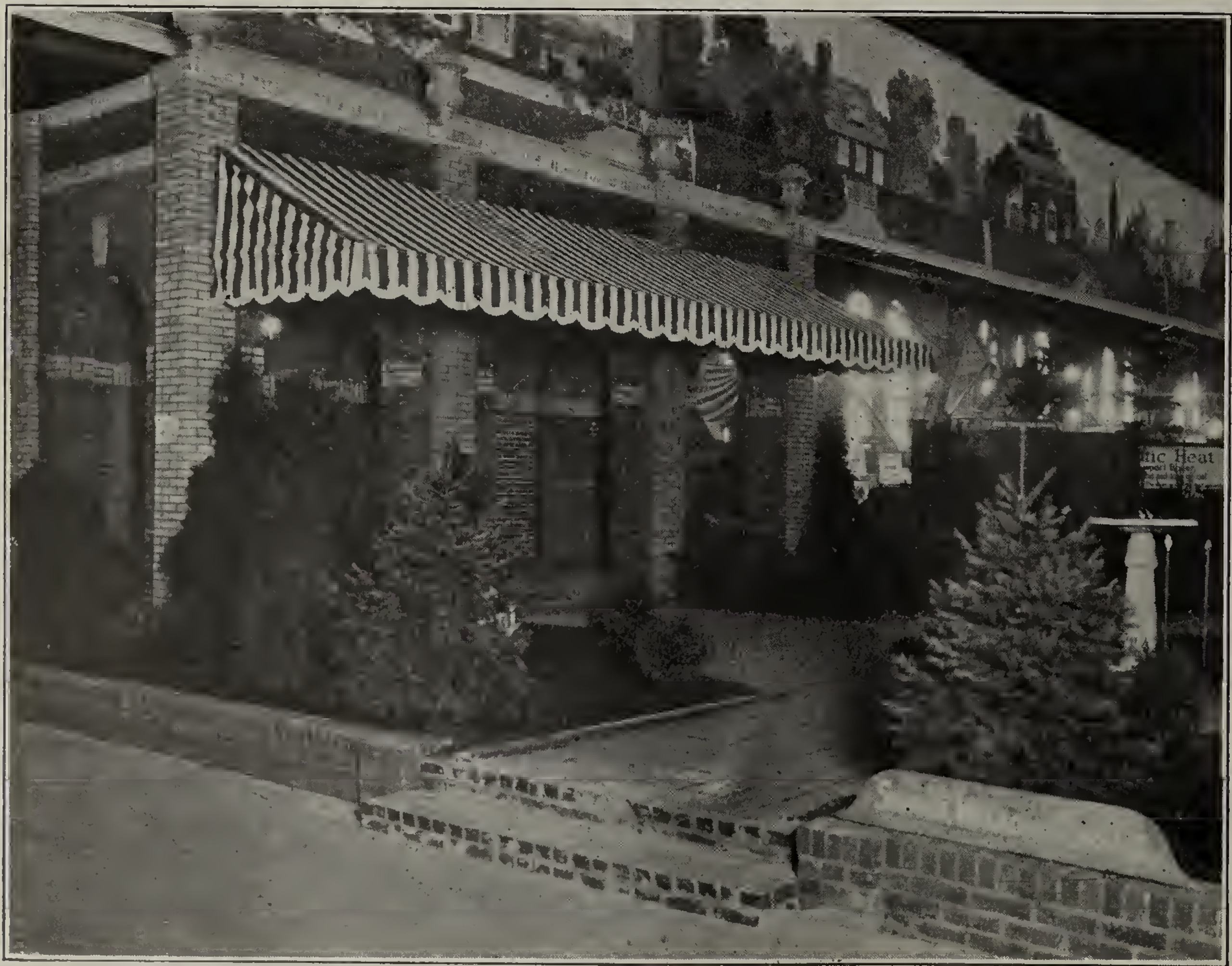
The W. S. Dickey Clay Manufacturing Co. occupied a booth which was devoted to farm and suburban home necessities. A part of this exhibition made a strong appeal for fire proof chimney construction. The argument was presented that for the sake of a few dollars extra cost for the installation of flue lining all danger from chimney fires may be obviated. The other part of the display was devoted to the Dickey system of farm sewage. The booth contained a septic tank of three large vitrified sewer pipe cemented together. A piece is cut out of the top of each pipe making it possible to stop the backward flow of sewer gas.


The Old Dutch Kitchen Shown Above Was Part of the Exhibit of the Chicago Brick Exchange. The Brick Were Smudged and Laid Unevenly to Give the Whole an Aged Appearance.

Sanitary ware was also in evidence at the exposition. Many different concerns were represented. Both enameled iron and vitreous china ware was displayed. Complete bathroom equipment was shown.

Practically every kind of building material was to be seen at the Coliseum. Altho none of the displays were as impressive as the brick exhibits, some of them were nevertheless interesting and attracted a great deal of attention.

A full-sized model of one of the prize winning small homes was erected in the Coliseum and open for inspection. The house was a four room structure, built with "Kellastone" exterior finish and asbestos shingles. The interior was completely furnished by Marshall Field & Co. in a manner to make the home unusually attractive.



A Close View of the Face Brick Exhibit. Many Colors and Textures Were Used to Build the Facade. The Ornaments on Top Are Terra Cotta.

The Acme Hollow Concrete Wall of Medera, Cal., demonstrated the features of this type of wall construction. One or two other types of cement wall were exhibited, but on the whole cement exhibits were quite insignificant.

Various types of stucco were in evidence, but the display of lumber interests was surprisingly small as compared with what is usually shown by the various associations, at any affair such as the "Own Your Home" exposition. A small one room building, built entirely of frame, constituted almost the entire exhibit of lumber.

BANKS ARE REPRESENTED

One of the most important factors in home construction is the financing. Thousands of people who needed homes would not hesitate at all if they could arrange somehow to obtain the money with which to build. Building and loan associations, banks, builders, and so forth, were in evidence and were besieged by hundreds of persons seeking to find suggestions for financing their home.

The Corn Exchange National Bank of Chicago, which has arranged a "Home of Your Own" campaign, was exceedingly busy explaining its plan and fully two hundred new members were enrolled during the first four days of the exposition.

Each day starting at 1:30 in the afternoon, and at each half hour interval, lectures and demonstrations were given on building topics. These were conducted by experienced men and were of general interest. Among the subjects were talks on building costs, building and loan, savings and thrift, home ownership—a factor in good citizenship, interior decoration, the necessity of fire proofing buildings, financing new homes, and so forth.

The enthusiasm for home owning runs very high right now and the value of the "Own Your Home" exposition should be reflected in considerable residential construction. Even to an unbiased visitor it must have seemed that the palm for the most impressive and attractive display belongs unquestionably to brick. Undoubtedly, that building material was given one of the biggest boosts for a more extensive use in residence construction it has ever received.

* * *

Lumbermen Dodge Issue on Prices

It will be remembered that in the last issue of *Brick and Clay Record* there was published an article abstracted from the "Monthly Bulletin, Illinois Society of Architects," under the caption of "Tells Truth About Prices." This article quoted price comparisons obtained by F. E. Davidson, a prominent architect, of various building materials, particularly lumber under dates of 1914 and 1921. The article brought to light the misleading figures that have been given out by lumber manufacturers as to the price of their material.

Excerpts from this article were published in the Sunday "Tribune" on March 20, and on the following day there appeared a full page ad in the Chicago "Tribune" for which the sum of approximately $1,000 was paid, which read as follows:

"REWARD—$1,000 cash. On Sunday morning, March 20, 1921, there appeared an article in the public press relative to the present prices of lumber and a comparative statement of lumber prices in 1914 and 1921, both of which are so erroneous and misleading that I consider it my duty, both as a lumberman, of which I am proud, and as President of the Lumbermen's Association of Chicago, to publicly challenge the quoted authority for both the article and the comparison to prove the truth of both as they appeared.

"If the quoted authority for both the article and the statement will prove to a committee to be preferably composed of the Mayor of Chicago, the President of the Chicago Association of Commerce, and the President of the Illinois Chapter of the American Institute of Architects, that the article and figures as published are correct, the Lumbermen's Association of Chicago will give to any charity or other worthy cause to be designated by the committee the sum of $1,000 cash."

The result of the above advertisement was an answer by the Illinois Society of Architects to agree to submit their data before an arbitration committee composed of Judge Holdom, J. R. Noel, president of the Chicago Association of Commerce, and Henry Holsman, president of the Illinois Chapter, American Institute of Architects. However, when the time arrived for the case to be presented before the arbiters, the lumbermen dodged the issue and attempted to bring in freight rate increases and other figures, but the architects insisted that only the figures as given in the charts by the lumbermen and such as were published in the architects' bulletin, be considered.

The architects claimed that there is still a net increase of 126 per cent. in the most common lumber items used in house construction. They also stated that the explanation of the alleged great decrease in lumber costs is simply that lumber prices in 1919 and 1920 soared "out of sight" beyond other materials, and have now returned to nearly normal. The lumbermen on the other hand claimed a greater reduction in lumber costs than that quoted by the architects, but they were taking out transportation and other costs.

Due to the disagreement as to what the issue was, the arbitration board refused to arbitrate any further, and the case apparently has fallen into a deadlock.

Are Brick Prices Too High?

In a recent issue of the Chicago "Tribune" a consulting engineer, W. C. Kirkpatrick, charged that the brick manufacturers of Chicago were in a combine that regulated building codes to their own advantage, prevented the construction of independent plants, and are charging sixty per cent. more for their product than is necessary for a fair profit.

The engineer stated that some of the plants have a capacity of 300,000 brick per day with a plant investment of $400,000. If the plants would run to capacity, he stated, and the present price of labor and fuel maintained, Chicago common brick could be manufactured and placed f. o. b. cars at the following cost:

"Labor per 1,000	$2.00
Power and drying fuel	.83⅓
Fuel for burning (oil)	.50
General repairs	.16⅔
General supplies	.08⅓
Depreciation	.41⅔
Patent royalties	.30
Total	$4.30"

The brick could then be sold at $10 per thousand.

A brick manufacturer of Riverdale, Ill., replied:

"A certain Mr. Kirkpatrick stated that the cost of brick in Chicago is 60 per cent. too high, due to the high overhead. He stated that brick could be sold at a profit for $10 per 1,000 and quoted figures showing the cost of brick f. o. b. cars to be $4.30 per 1,000.

"Now, Mr. Kirkpatrick, let us figure a minute. You say that the value of a 300,000 brick plant is $400,000, and that brick can be made and sold at a profit for $10 per 1,000.

"Suppose we set the price of brick at $12 per 1,000, which is $2 above your figure and 25 per cent. under the market.

"Now, then, 300,000 brick per day means 7,500,000 per month, figuring twenty-five working days. Calling ten months a season, 75,000,000 brick will be produced. Selling these at $12 would net a profit of $150,000 a year.

"Couldn't you take these figures to some banker and borrow enough capital to build and equip a plant and thus break the brick combination?

"By the way, a certain Kirkpatrick had charge of rebuilding a brick plant last year at Blue Island. Perhaps you're the chap. If so, what is wrong with it? Why isn't it operating? You rebuilt and started it last year, made a couple of small kilns and then quit. Why? Why not start this plant, advertise your output to be sold at $12, or 25 per cent. under the market. Show us something. You make certain claims, now make good."

Under the very best efficiency, the Illinois Brick Co. is able to burn its brick with twelve gallons of oil per thousand brick. According to the figures of the engineer quoted in the newspaper, it would mean that oil would have to cost a little over four cents a gallon in order for the brick to be burned at fifty cents per thousand for fuel costs. However, oil is not obtainable at this low figure. Other figures are also undoubtedly far from possible attainment.

* * *

Advertise Ideal Wall in Newspapers

The Common Brick Manufacturers' Association of America has started a campaign in the daily newspapers, appealing to the home builders to investigate the new "Ideal" brick wall. All common brick manufacturers would do well to affiliate with the Association and get the benefit of the inquiries that will come as a result of the advertising.

CLAY SCREENING MACHINE PROVES WORTH WHILE

Increases Screening Capacity and Obtains Greater Uniformity of Material Than with Old Method and at No Increase of Cost

By C. U. Hendershot

Superintendent, Cleveland (Ohio) Brick and Clay Co.

TOO MUCH STRESS cannot be laid on the necessity of uniformity of size in the screened ingredients which go into the making of paving brick. If the dry pans do not crush the shale quite fine enough and the big particles go by the screen, there will be a high percentage of rejections on the job. This is likely to occur many miles from a factory because many of the lots of brick are not inspected by the purchaser until they reach the job, so that a clay plant would be put to a heavy expense to take care of adjustments.

We are using a blue shale in the manufacture of our paving brick. This shale is of a cement-like composition and contains on the average of about eleven per cent. moisture. On account of this high moisture content it tends to "set" on the screen, especially in wet weather and it is hard to screen at any time.

Fire in 1919 destroyed a greater part of our clay handling equipment. When we started to rebuild we determined that our rebuilt plant should contain the best equipment on the market. The method of screening was given considerable thought due to the important part that it plays in the quality of the manufactured product. After considering several different screening devices, we decided to install a six foot "Hum-Mer" inclined screen.

The "Hum-Mer" inclined screen was installed on May 25, 1920. Originally we used two surfaces in the screen; but on account of the capacity we were forced to put thru it, we changed to a single surface. At present we are using only the fine screen, which answers our requirements and increases our capacity considerably.

SCREEN OPERATED AT ANGLE OF THIRTY DEGREES

To further increase the capacity of this equipment we changed the mesh of the wire. At first we used a square mesh wire, but as the machine was operating on an angle, we found that the capacity screen wire put out by the W. S. Tyler Co. increased our capacity from sixty to seventy cars per day. We have obtained the best results with the No. 736 "Ton-cap" screen. We used a standard vibrator and a G-1 generator, but believe a G-2 generator is better adapted to a six-foot machine.

We operate the screen at an angle of thirty degress finding that that inclination gives us the best results with the materials we handle. Because of the peculiar quality of our material and the necessity of making the screen carry an overload from the very start, it took considerable experimentation to fit the equipment to our requirements. The makers of this apparatus gave us the heartiest cooperation in every respect with the result that we shall shortly install a second screen to take care of the increased capacity of our plant.

Our material is crushed by a 21 x 42-inch single roll rock crusher and carried by a drag conveyor to storage bins behind and above a battery of three, nine-foot dry pans. Material from these storage bins is fed by reciprocating plate feeders to pans, and then elevated and distributed by a screen feed over the surface of the screen.

SCREEN EIGHTEEN TONS PER HOUR

We feed from twenty-two to twenty-four tons of blue shale thru the screen per hour, getting on the average of eighteen tons of screening each hour. Of course in dry weather the loose shale will go thru the screen much easier than in wet weather. Our average output since installing this screen has been 343,000 pounds of brick in a 9-hour day.

Screening our material with a "Hum-Mer," separator, the material spreads evenly over the entire screening surface. Because of the vibrating section of the screen, the larger particles are thrown up and the finer particles have an opportunity to pass thru the screen. The uniform screening resulting assures us a uniform product.

Compare this with the old piano wire screening method. When a screen boy or some mechanical device is used to rake or scrape the material upon the screen in order to get it thru, a large number of larger particles are forced thru the mesh. As a result, the screenings are not nearly as uniform as they should be, and our finished product is affected.

Again, with the old piano wire screen, we haven't the control possible with the "Hum-Mer" separator. In the first place, with the screw feeding device we are able to control the feeding of the material onto the screen, so that there is an even, steady flow. By getting a more even distribution, we were able to increase our capacity from fifteen to forty cars per day, or 10,000 to 25,000 brick.

CHANGES EASILY MADE

This adjustment, like others on this machine, can be made while the screen is in operation. This gives us a decided advantage over the hit-and-miss method, because by opening up the machine when it is running we can see what effect the adjustment is producing. The adjustment of the screen to a drum tension is also easily accessible. By using the hand to test the tension, the screen can be brought to the desired resiliency.

Three men, working fifteen or twenty minutes, can change both screens on a "Hum-Mer" separator. If they had to change the wire on a piano wire screen, it would take them at least half a day. During that time they would tie up our plant and throw from twenty-five to thirty men out of work.

Editor's Note:—Upon returning the manuscript which had been sent to him for review and corrections, Mr. Hendershot stated:

"I honestly believe that anyone in the brick business, having at heart the betterment of their product, will be benefited by using a 'Hum-mer Screen.' "

As the screens on the "Hum-Mer" last at least six months, the time lost in changing them is practically negligible.

The cost of the made-up screen is approximately the same as the cost of the piano wire. The cost of labor to put the two "Hum-Mer" screens in place, figuring three men working fifteen minutes each, would amount to forty-five cents. To change the piano wire would take three men half a day and cost $9.90. However, this difference is negligible when you think of the men that are thrown out of work while the old type screen is being repaired.

The original cost of the two types of equipment is approximately the same, with perhaps a slight difference in favor of the "Hum-Mer" separator. The cost of the "Hum-Mer" installed complete is approximately $1,100. Two piano screen frames would cost $600; the wire to string them would cost $50, and the labor another $50, making a total of $700 for the equipment alone.

The other things necessary with this old-fashioned equipment would bring the cost of the installation to approximately $1,000. For example, the building must be designed to accommodate the old type of equipment, because it is usually hung from roof rafters which have to be built especially strong. Taking such things into consideration, the two equipments cost approximately the same.

REPAIR COSTS ON SCREENS SIMILAR

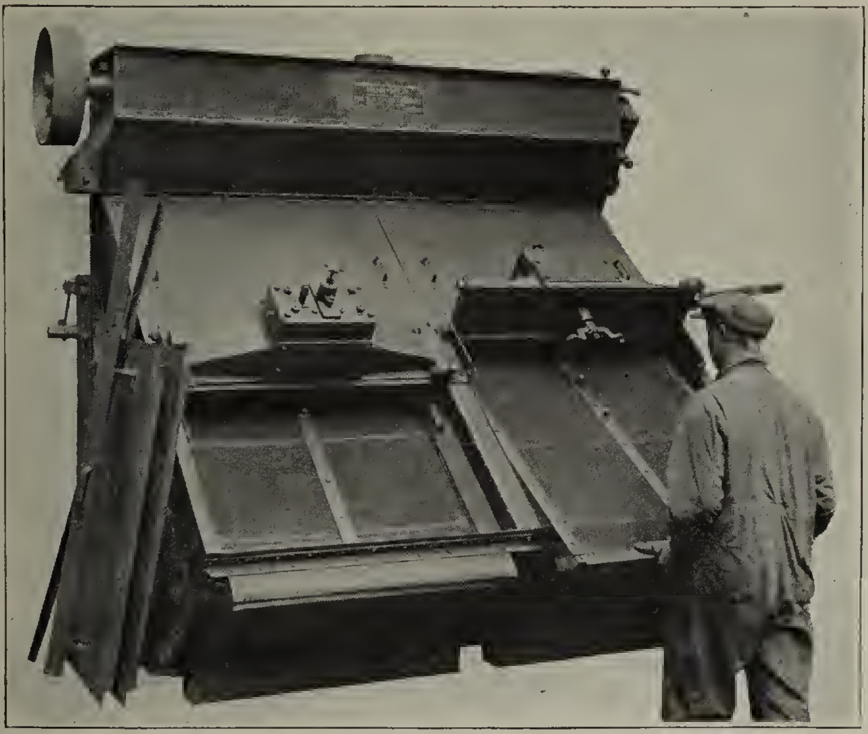
We figure that the repairs on the two types of equipment will also run approximately the same. The "Hum-Mer" screen costs $14 a section, and must be replaced every 6 months. We carry an extra vibrator to protect us against shut downs. The cost of this investment, and repairs on the vibrators, will come to approximately $160 a year. We are confident that $200 a year will cover the entire repairs on the equipment.

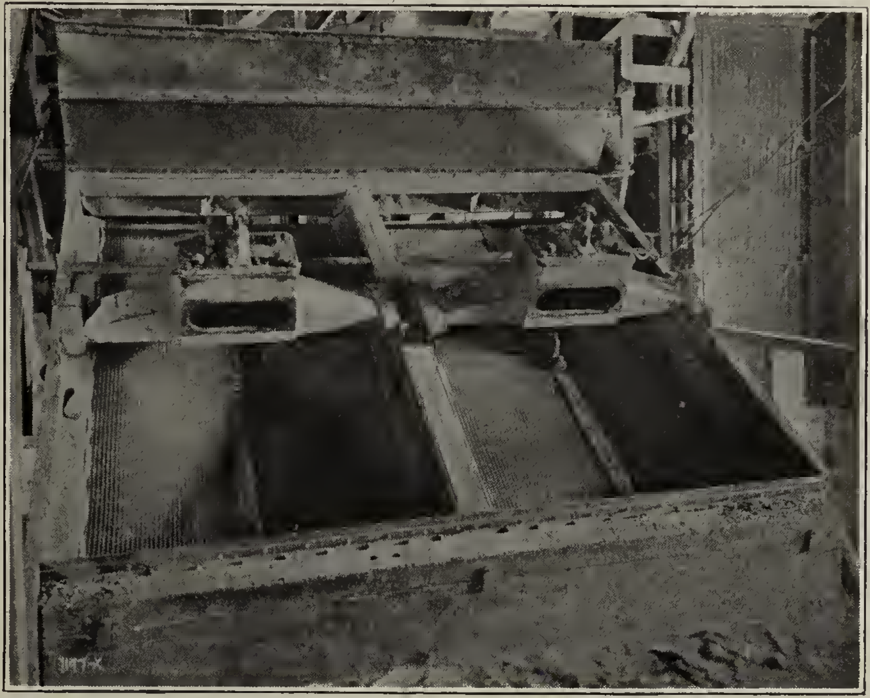
The accessibility of all parts on the "Hum-Mer" separator, and the ease with which we are able to control the uniformity of the material screened, make it an ideal machine for our use. We have been forced to crowd our equipment to the utmost; and after installing the additional machine on which we are planning, we shall probably make certain readjustments. With two machines we shall not have to put as much capacity over the machine as we now do.

While the old type of machine needed constant attention, the "Hum-Mer" requires very little attention. This is fortunate, because it is pretty hard to get a screen boy to stand up and eat dust all day long in front of the old type machine.

The cost of running the "Hum-Mer" is much lower than the cost of the piano wire screen. The power consumed by the vibrator, and by the motor that drives the feed screw, will not nearly equal the wages of the screen boy.

The "Hum-Mer" separator has brought about a noticeable increase in the general efficiency of our plant. The exact extent to which it has increased our capacity and earnings cannot be determined definitely until the second machine has been in use for a while.


Workman in the Act of Taking Screen Cloth Out of Apparatus.


How Installation of Screening Machine Appears at the Cleveland Brick & Clay Co's. Plant.

* * *

Paving Brick Men Elect Officers

At the annual meeting of executive committee of the National Paving Brick Manufacturers' Association the following officers were elected: Chairman of the board, S. M. Duty, president, Medal Paving Brick Co., Cleveland, Ohio; president, O. W. Renkert, vice-president and general manager, Metropolitan Paving Brick Co., Canton, Ohio; vice-president, W. M. Lasley, president, Southern Clay Manufacturing Co., Chattanooga, Tenn.; vice-president, W. P. Blair, Cleveland; treasurer, C. C. Barr, Barr Clay Co., Streator, Ill.; secretary, M. B. Greenough, Cleveland.

* * *

Government Aid Sought to Revive Building

The Industrial Relations Committee of the Philadelphia Chamber of Commerce, which is working for a resumption of building on a national scale, carried its campaign to Washington recently and enlisted the services of Secretary Hoover and Secretary Weeks. Several important conferences were held between Powell Evans and Ernest T. Trigg and the government officials. Governmental assistance is believed to be assured.

The definite aims of the movement are:

1. Such deflation of material, labor and assembling costs in building and other construction work as will show a total increase in all building costs fifty per cent. over pre-war construction. Thus, a house which cost $10,000 to build in 1913 should now cost $15,000. At this proportion of increase, it is argued, every person and corporation contemplating building will be justified in going ahead. It is felt that a lower percentage of increased cost is impossible to maintain.

2. The issuance of a call by President Harding, or a member of the cabinet designated by him, for speedy adjustment of building construction in all communities on the above suggested line.

3. Such revision of the government's own building program

as will require reasonable revised and reasonable rates for material, labor and assembling costs in order that the adjusted market conditions may not again be broken.

* * *

Urge State Fund for Housing

The New York State Legislature is directing attention to greater home building and is considering a number of important measures to bring this condition about. A bill has been introduced to provide a fund of $100,000,000 for this work, to be arranged in the form of Bureau of Land Loans as a branch of the State Banking Department. The measure provides for loans not to exceed 75 per cent. of the appraised valuation of property, with interest rate at 4 per cent.; no loans would be made in excess of $100,000, nor below $50,000. To increase housing accommodations, another bill is before the Legislature empowering the city of New York to acquire by condemnation, purchase or lease, unoccupied dwellings condemned and now idle; these would be repaired by the municipality, placed in good condition and rented.

* * *

Sand-Lime Brick Men to Meet in April

The date for the meeting of the Sand-Lime Brick Association has been set for April 26 and 27 and will be held at the Hotel Miami, Dayton, Ohio.

This promises to be an interesting and instructive meeting as a study will be made of the continuous automatic measuring, mixing and grinding machinery, which is entirely different from anything heretofore used in the brick industry. The installation of this equipment has just been completed at the plant of the Crume Brick Co., Dayton.

* * *

OMAHA EXHIBITION *to* START WHEELS *of* CONSTRUCTION MOVING

TO STIMULATE the building industry in the Trans-Missouri country and especially Omaha, Neb., and the surrounding territory this season, the first building exhibition in the history of this city will be held during the latter part of April. Robert C. Mitchell, manager of the Reliance Brick Co., of that city, and Charles Franke, manager of the Omaha Auditorium, are planning the exhibition.

The exhibition will be staged in the Municipal Auditorium, a large one-story brick structure covering an area of one block. Persons interested in the sale of building materials and business establishments selling household and office equipment and supplies have been invited to display their products at this show. At this time a considerable space in the building has been reserved by local and foreign business concerns.

BUILDING MATERIALS DOWN IN PRICE

The apathy in the building industry in this section of the country and the desire of local real estate men and material merchants to promote the building program led the managers of the exhibition to plan the show. The prospects for the exhibit at this time are so bright that the Chamber of Commerce of the city and a group of business men interested in house building to the extent of an annual expenditure of $20,000,000 have endorsed the scheme.

The committee representing this expenditure of $20,000,000 annually in real estate organized some time ago to fathom the situation. At this time they have secured a reduction in the price of building materials to the extent of twenty per cent. In many instances they have brought down the price of materials as much as thirty per cent.

LABOR MAY BE REDUCED

Labor, an important element in the house-building program, was represented at the meeting. Altho not openly agreeing to make a reduction in their wage scale in order to rejuvenate this important building campaign, they tacitly consented to reduce their wages if the material men would reduce the price of their products. Another meeting between the business men and the trade unions is scheduled for a later date.

Despite the fact that there is not a shortage in money in this territory, the building program was not resumed this year as was expected. Permits for office, business and residence structures have been issued and a general hesitancy was everywhere evident. The explanation was that the people were waiting for the final reduction in building prices to come.

So many promises had been made that building material prices were going to undergo a great slump that the prospective builders expected such a situation and absolutely refused to give orders for the construction of their homes.

THOUSANDS EXPECTED TO ATTEND EXHIBIT

The building exhibition is expected to solve the situation. Here everything needed from the first brick placed in the foundation wall to the last word in house fixtures and equipment will be displayed in booths leased by the business concerns. Representatives of the various establishments interested will be on hand at all hours of the day to explain their products and submit the prices to the inquiring public.

Every available booth and all exhibit space for the building show has been sold and great interest is being manifested by manufacturers of every kind of building material. Perhaps the most interesting incident in connection with the show is the fact that the Nebraska Chapter of the American Institute of Architects has engaged fourteen spaces for the purpose of erecting a very elaborate architectural exhibit.

The exhibit will be officially opened by Mayor Smith of Omaha on the night of April 18 and Governor S. R. McKelvie of Nebraska will be present as guest of honor. Ralph P. Stoddard, secretary-manager the Common Brick Manufacturers Association, will speak on the opening night on the "Ideal Wall," one of the most remarkable developments in the history of the brick industry.

To this exhibition people will flock by the thousands. Husband and wife will figure up their bank balance, price materials entering into the construction of the home, consult architects and contractors who will have offices there in the show and let their contracts for a future home.

Shortly before the late war Mr. Mitchell directed an exhibition similar in nature to this one in Cleveland, Ohio, where he issued 250,000 gate receipts. This show was scheduled to last seven days but the huge attendance forced Mr. Mitchell to extend the time to ten days.

If the building program in this section of the country can be resumed this year the building exhibition is expected to be the solution.

REFRACTORIES MEN FORM OPERATIVES' INSTITUTE

Refractories Manufacturers Association Creates Two New Sections and Organizes Fuel Conservation Committee at New York Meeting

THE MEETING of the Refractories Manufacturers' Association, held at the Pennsylvania hotel, New York City, March 17 and 18, 1921, was that organization's ninth annual convention and proved to be the most successful in its history. Over fifty per cent. of the membership was present at the two-day session and important developments took place. Many new members were accepted at the convention and the association now has a list of members totaling more than 100, which is the highest mark ever attained since its inception.

One of the most important developments of the meeting was the acceptance by the society of the standard definitions for clay refractories, adopted by the American Society for Testing Materials, last year. President J. D. Ramsay, Elk Fire Brick Co., St. Mary's, Pa., outlined some very constructive ideas by which the association would benefit during the coming year. These suggestions were later accepted and acted upon by the executive committee. Dr. E. R. Weidlein, of the Mellon Institute, Pittsburgh, spoke, and touched on research work as applicable to refractories and its importance to the industry at large.

INTERESTING DISCUSSIONS TAKE PLACE

Illustrating his talk with graphs of his own design, Professor Whalen, of the University of Cincinnati, spoke on business economics and the importance of statistical charts. Delegates present were considerably interested in both the above talks and lively discussions took place, during the course of which many valuable thoughts were presented.

At the session Thursday afternoon, March 17, the delegates took part in a round table discussion relating to general business conditions in the various centers of the industry. Tho there was considerable divergence of opinion the thought most generally expressed was that no great improvement can be expected for several months. Manufacturers, as a rule, are not running more than thirty-five to forty per cent. capacity and the usual replacement work in the steel industry is not going ahead very rapidly.

CREATE TWO NEW SECTIONS

Two new districts were created, making a total of ten districts represented on the executive committee. F. J. Helwig, Pueblo, Colo., and E. M. Durant, Los Angeles, Cal., were the men elected to represent the new districts on the executive committee. Mr. Helwig's district takes in refractories manufacturers in Colorado and Utah, and Mr. Durant will represent the Pacific Coast manufacturers.

Officers were re-elected and installed on Thursday morning, as follows: President, J. D. Ramsay, Elk Fire Brick Co., St. Mary's, Pa.; vice-president, John L. Green, LaClede-Christy Clay Products Co., St. Louis, Mo.; treasurer, C. C. Edmunds, McLain Fire Brick Co., Pittsburgh, and secretary, Frederic W. Donahoe, 840 Oliver building, Pittsburgh.

As previously mentioned in *Brick and Clay Record,* a Refractories Accountants' Institute has recently been formed by the Refractories Manufacturers' Association, one of the purposes of which is to establish a uniform system of cost accounting. In addition to this it was decided at the New York convention to organize a Refractories Operatives' Institute, and to this end a committee was appointed, with Arthur P. Taylor, of Charles Taylor Sons Co., Cincinnati, Ohio, as chairman.

The organization of the fuel conservation committee was another progressive step by the association. S. M. Kier, of the Kier Fire Brick Co., Pittsburgh, was appointed chairman.

Committee chairmen reporting at one of the sessions of the annual meeting included: J. D. Ramsay, committee to co-operate with committee C-8 of the American Society for Testing Materials; R. D. Hatton, committee to co-operate with government officials on standards and specifications; D. S. Parry, committee on liability and compensation insurance; Porter S. Kier, committee on fellowship at the Mellon institute; J. J. Brooks Jr., committee on standardization; and R. P. M. Davis, committee on open shop. Several other progress reports were read.

* * *

Brick Gets Widespread Publicity Which Manufacturers Should Use to Advantage

No doubt, brick manufacturers were very much interested in the March 26 issue of the "Literary Digest" on page sixty-six of which was published a quotation from the February 8 issue of *Brick and Clay Record.* In the "Literary Digest" reference was made to the new brick hollow wall construction, as a result of which *Brick and Clay Record* has received an enormous number of inquiries asking for information concerning this new wall. In each instance the correspondents exhibit an eager desire to build.

Thruout the entire country newspapers have, and are giving the new brick hollow wall some mention, and as a result public interest is getting up to a very high pitch. Brick manufacturers should not fail to cash in on the unique situation which is very favorable to them. The public is interested in brick and local advertising with reference to the new brick hollow wall would be extremely timely right now.

* * *

Cement Production Not So Big

In the March 22 issue of *Brick and Clay Record* there were published comparative figures on cement production in 1900 and 1920. The figures were part of the review of Ralph P. Stoddard's address before the meeting of the Illinois Clay Manufacturers' Association of Chicago. The figures quoted show the production of Portland cement in the United States to have risen from 25,000,000 barrels in 1900 to 600,000,000 in 1920. Government statistics, however, reveal that these figures are incorrect and that the production for 1900 was 8,482,000 barrels and for 1920, 100,000,000 barrels.

In this article reference was made to the work done by the Barber-Greene portable conveyor at the Morey Clay Products Co. This item stated that the above concern load box cars with 25,000 brick in two and one-half hours. The Morey Clay Products Co., however, manufacture hollow tile, hence it is this quantity of tile that is handled instead of so many brick.

KEEPING TRUCK RECORDS *and* FIGURING *the* COSTS

Shows Methods of Figuring Interest on Investment—Commonest Forms of Tire Trouble and How to Obviate Them

By P. L. Sniffin

IN THE DAY-AFTER-DAY RUSH of getting this or that shipment of clay, hollow tile, brick, sewer pipe or other materials out of the way it is only natural for the clay plant operator—or any business man who operates motor trucks—to say, **"What is the use of keeping records on the performance of my trucks? The time and trouble involved will more than make up for any saving such records would produce."**

As a matter of fact, the direct contrary is true.

The trouble is that most truck operators think of a system for checking up operating costs as a tremendously involved and complicated series of forms and record sheets which necessitate the establishment of an elaborate bookkeeping system. In reality, such lengthy processes are only required in the case of large fleet owners and those who desire to go into the most minute detail.

A great many truck operators who do attempt to keep cost records make the big mistake of not including all costs in their analysis.

They figure the visible costs such as gasoline, tires, oil and drivers' wages and neglect important fixed charges such as depreciation, interest on investment and insurance, which are in reality the most important items.

It has been estimated that running costs alone comprise only about one-third of a truck's total operating expense. Take, for instance, the thousands of firms in the general motor trucking business, commonly known as "jitney expressmen" who have failed thru loose accounting methods. In practically every case, their failure may be traced to the fact that they have not included fixed charges in determining upon the rate to be charged for service. As a result of this, they underbid any figure named by competitors and it is only a matter of time before they encounter bankruptcy.

This experience of the "jitney" truckmen has a vital significance to the firm that uses trucks as an aid to its main function. **The truck owner who does not keep costs or whose cost-analyzing methods are incomplete, has no way of determining whether his motor trucks are economical or efficient.**

WHY KEEP COST RECORDS?

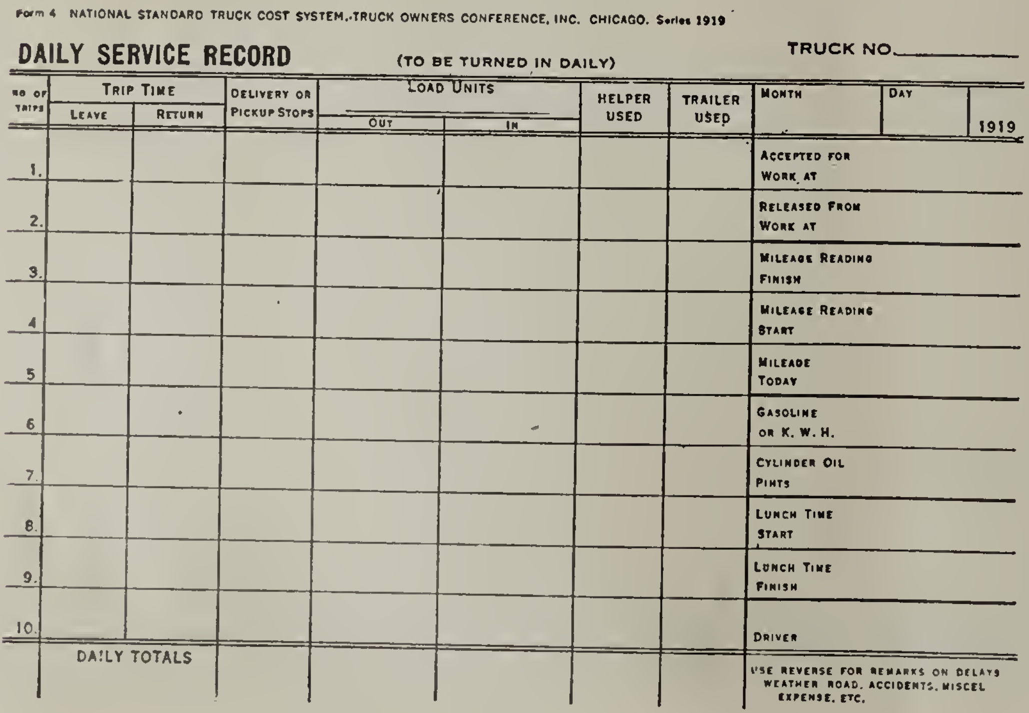
It has been said that the important reasons for keeping motor truck costs are:

1. *To know what it costs to operate trucks.*
2. *To compare sizes and makes of trucks to determine which is best suited to a particular business.*
3. *To compare tires as to mileage and cost per mile.*
4. *To detect leaks that drain a company's finances or that make truck operation uneconomical.*
5. *To determine the value of drivers in relation to truck operation economy.*
6. *To prove where it is cheaper to ship by truck than by freight.*
7. *To hire out trucks at a price that will net a profit.*
8. *To find the economical field for motor trucks and for horses.*

Quite obviously, it is impossible to cover the subject of "How to Keep Truck Operating Costs," within the confines of a single article. Volumes could be written upon various methods that are best adapted to different lines of business and different concerns within each field.

INVARIABLE COST ITEMS

Each truck owner's requirements for keeping records nec-



Form 4 NATIONAL STANDARD TRUCK COST SYSTEM.-TRUCK OWNERS CONFERENCE, INC. CHICAGO. Series 1919

DAILY SERVICE RECORD (TO BE TURNED IN DAILY) TRUCK NO.______

NO. OF TRIPS	TRIP TIME		DELIVERY OR PICKUP STOPS	LOAD UNITS		HELPER USED	TRAILER USED	MONTH	DAY	1919
	LEAVE	RETURN		OUT	IN					
1.								ACCEPTED FOR WORK AT		
2.								RELEASED FROM WORK AT		
3.								MILEAGE READING FINISH		
4								MILEAGE READING START		
5								MILEAGE TODAY		
6								GASOLINE OR K. W. H.		
7.								CYLINDER OIL PINTS		
8.								LUNCH TIME START		
9.								LUNCH TIME FINISH		
10.								DRIVER		
	DAILY TOTALS							USE REVERSE FOR REMARKS ON DELAYS WEATHER ROAD, ACCIDENTS, MISCEL EXPENSE, ETC.		

In order to know whether or not the maximum efficiency is being obtained from the truck it is necessary that accurate records be kept of the truck's daily performance. A daily service record such as shown here aids greatly in keeping a check on truck costs. This record is filled out by the driver every day and should be an accurate history of the day's work.

essarily differ, yet all must include the following items where they represent expenses incurred in the concern's transportation system:

FIXED CHARGES
- Amortization (reserve for depreciation).
- Interest on investment.
- Insurance.
  - Fire, transportation and theft.
  - Public liability and property damage.
  - Collision.
- Taxes.
- Licenses.

MAINTENANCE CHARGES
- Garage.
  - Rent, heat, light, power, etc.
- Repairs.
  - Materials and labor.
- Tires.
- Painting.
- Overhauling.
- Overhead.
  - Administration requirements.
- Wrecking crew and equipment.
- Mechanics and inspectors.
- Battery renewal and charging.

RUNNING COSTS
- Gasoline.
- Oil.
- Wages of drivers.
- Grease, kerosene and waste.

SURPRISINGLY SIMPLE COST RECORD

Establishing a satisfactory record system for any building supply business is a matter of individual thought on the part of the concern in question. It is surprisingly simple, however, to organize such a system with these facts in mind, which will enable the truck operator to definitely determine without excessive effort, what it costs him to operate his trucks and which will be of great assistance to him in increasing the efficiency of this transportation units. The purpose of these articles is merely to suggest important considerations for the benefit of the truck owner who is contemplating the adoption of a system for keeping operating cost records.

SELECTING THE COST UNIT

Various units of operating cost may be used to permit cost comparisons in the building supply business, each of which has its special advantages. While a discussion of these different units and the reasons for them would reach lengthy proportions, it may be said in general that the standard basis adapted by motor truck authorities is the "cost per unit mile." This is established by use of the following formula:

$$\frac{\text{Average round trip distance} \times \text{total units}}{2} = \text{unit miles.}$$

$$\frac{\text{Total cost}}{\text{Unit miles.}} = \text{cost per unit mile.}$$

The process of figuring this cost is relatively simple compared with most other methods. The building supply business, however, presents one peculiar difficulty and that is the choice of a unit of load that will be applicable to every kind of material hauled. Where the bulk of the business involves lumber, the "board foot" unit would perhaps be most satisfactory. On the other hand, inasmuch as the dealer's scope usually includes sand, gravel, cement, etc., the "ton" unit offers a more elastic basis. Thus the method of applying the above formula would be as follows: Decide upon a definite period, say once a month, to compute this cost; each day, make a total of the number of round trips made and the number of miles covered; divide the number of round trips made in a month by 2, as it is presumed that on half the trip the truck is empty, or in any case this method allows for pickups since frequently a truck discharges part of its load en route to its destination; multiply this figure by the total units hauled in that month (obtained by adding the tonnages appearing on the driver's daily report) and this gives the number of unit miles per month; the total operating cost per month, divided by this figure gives the cost per unit mile for that month.

RUNNING COSTS

The items under "Running Costs" are important inasmuch as they lend themselves to effecting economies if they are closely watched. At the same time, they are perhaps the simplest of all to keep track of since they may be easily charged from day to day against each truck in accordance with the truck's requirements. A very satisfactory method for recording these costs and one that involves the least effort, is to provide each driver with a monthly report form on which he may enter each day's requisition for gasoline, oil, cup grease, kerosene, waste, etc., at the end of that day. This form should provide a space for drivers' and helpers' wages to be inserted at the end of the month. The monthly

Showing How Various Kinds of Misuse Affect Solid Rubber Truck Tires. Fig. 1 Shows What Happens from Running in Car Tracks; Fig. 2, From Overloading, and Fig. 3, the Results of Spinning the Wheel.

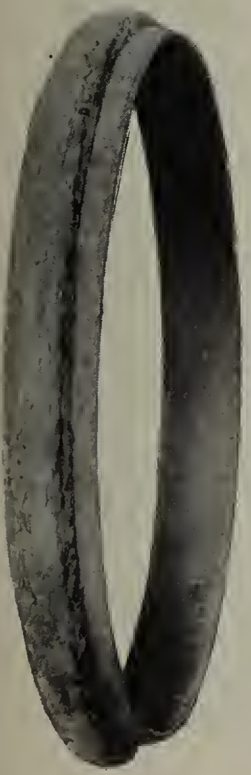


Fig. 1.

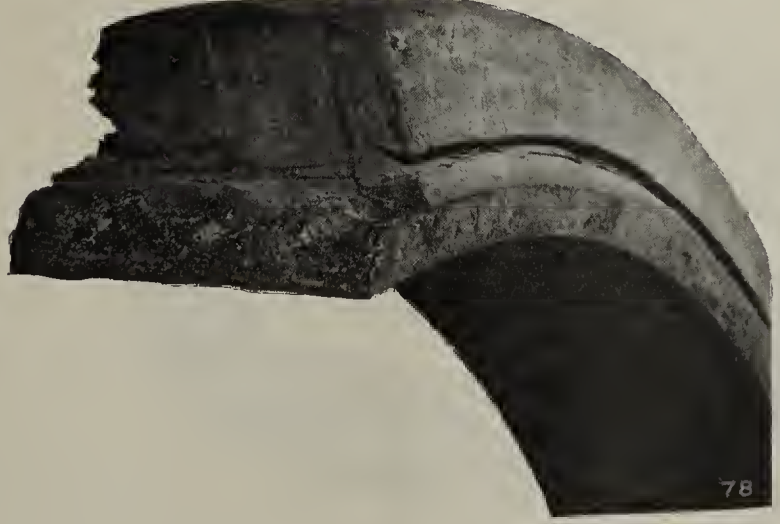


Fig. 2.

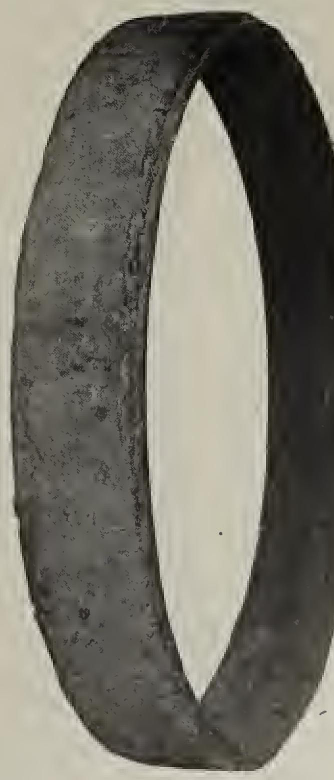


Fig. 3.

totals of running expenses may be readily checked by garage receipts, invoices, etc. It is important, above all, to minimize the amount of clerical work required of the driver, principally because many drivers are not capable of handling complicated systems accurately and because their full time is needed in making deliveries. In some cases, according to the size of the business and other conditions, it is sufficient to compile the monthly records of running costs from garage reports.

A driver's daily service record is quite essential to an accurate cost accounting system. A suggested form for this, as presented by the National Standard Truck Cost System is shown herewith. However, inasmuch as different requirements vary, the truck owner may readily make changes in this that will make the card better suited to his needs.

It must be remembered, however, that it is vitally important to include every item of fixed charges and maintenance charges in computing the unit cost.

In the process of figuring costs of motor truck operation, it is common practice to overlook many items which, while not visible in themselves, if neglected tend to make the unit cost exceedingly far from accurate.

These, for the most part, fall under the head of "fixed" charges." Fixed charges, with one exception, are those that do not vary from day to day,—that is, they go on whether the truck is in use or not. This one exception is amortization (the reserve for depreciation). The other fixed charges are interest, insurance, and license fees.

AMORTIZATION

Every motor truck operator, regardless of how he uses his trucks, or how many trucks he has, should take amortization into account in figuring the cost of operation. This is the term applied to the practice of charging a certain sum against an investment for every unit that affects its life, so that when the investment is no longer in service, sufficient funds will be available to duplicate it. In other words, amortization is the reserve for depreciation. Several years ago, it was common practice to amortize motor equipment on a basis of time, but this method, according to best authorities, is now practically obsolete. The accepted modern method of amortizing a motor truck is on the mileage basis, by which the expected mileage of each truck in question is determined and then the original investment is charged to the cost of operation at specific periods on a basis of the number of miles traveled. The estimated mile life of the truck varies, of course, with the quality of the truck and the use to which it is put. In the case of real high grade vehicles, it has been found that 300,000 miles has not been too high. Conservativeness, however, places the life of the average truck, for amortization purposes, at from 100,000 to 150,000 miles. The amount of the investment is most commonly figured on a net basis, that is, the total investment less the cost of tires, since it is advisable to consider tire depreciation as a separate item.

INTEREST ON INVESTMENT

Since the purchase of a motor truck is an investment in the business, it is necessary to take a certain sum of money from the business, either as cash or credit, to pay for it. Like all sound investments, this money should have an earning power of whatever rate it would cost to borrow a similar sum. However, since motor trucks are amortized, the greater the truck mileage, the greater will be the amortization fund and less the amount invested. Thus it would quite naturally be unfair to charge interest based on the full original investment during the whole life of the truck. In order to keep this amount of investment constant and correct, most authorities agree that it is advisable to charge this interest at one-half the current or legal rate. Other systems of computing interest are in use, such as that of the National Standard Truck Cost System, which charges this interest according to the formula which has as its basis the book life of a truck. However, it is generally found in the case of operators of smaller fleets that such systems only complicate the interest account.

INSURANCE

The matter of motor truck insurance, as it is offered in various forms by insurance companies, is an individual subject, and will be discussed more fully in a future article. It will suffice to say here, however, that whether insurance is carried with an insurance company or by the concern itself, the cost should be charged to the truck. It is unfortunately the case that the concern that does not carry a policy, altho it assumes all the risks, seldom enters a charge for insurance. Insurance is a comparatively simple matter, when the policy is underwritten by an insurance company. No business man will fail to insure his plant and equipment. Why should he fail to do so with his motor equipment?

License fees and taxes, being incurred by the truck, should be charged to it. Under this heading, the state fee, city

Three Other Direct Results of Carelessness in Usage and Care of Solid Tires. Fig. 4 Comes from Overspeeding; Fig. 5, Skidding, and Fig. 6 Shows Results of Neglecting Cuts and Tears.

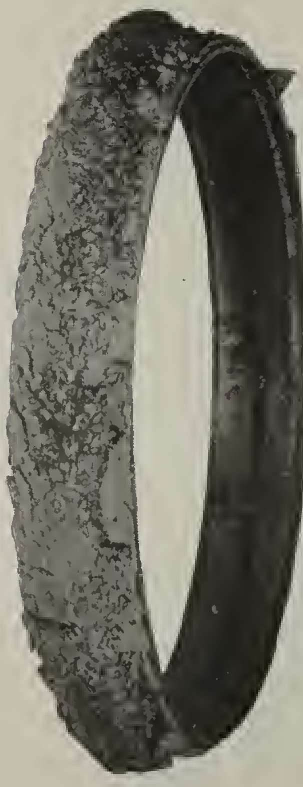


Fig. 4

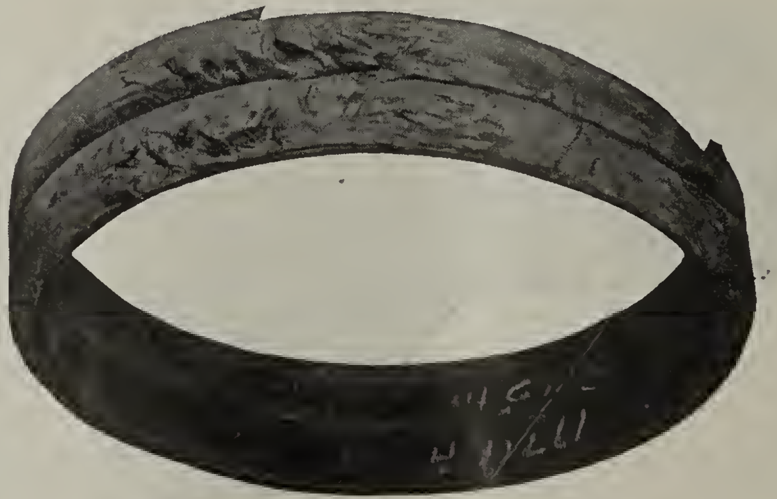


Fig. 5

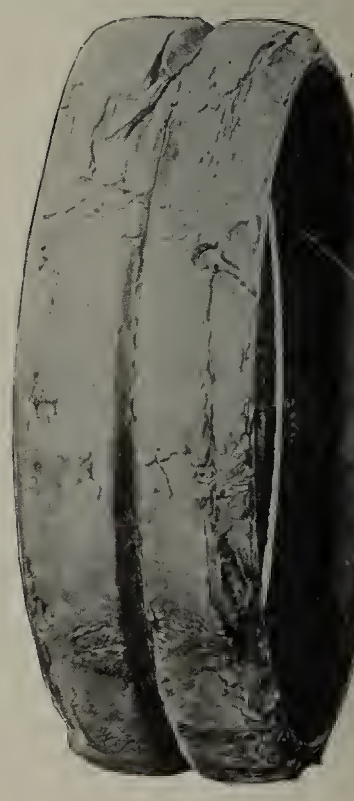


Fig. 6

fee, if any, and special fees should be included. The driver's license, if paid by the operator, should also be charged to the truck.

In a future issue of *Brick and Clay Record,* Maintenance Charges, and Running Charges will be discussed.

SUGGESTIONS ON THE CARE OF TRUCK TIRES

One of the best known ways to remedy an undesirable condition is the old cause and effect principle. This is especially true in the care of truck tires.

The illustrations herewith answer the truck owner's question, "I wonder what caused that?" in reference to some particular tire condition. They illustrate the result of the six most common forms of tire abuse, namely,—running in car tracks, overloading, spinning the wheel, overspeeding, skidding and neglecting cuts and tears.

Fig. 1 illustrates how the pressure is concentrated at one point of the tire with the resulting cuts, when it has been run on car tracks. Sharp edges of the rails and flanges of street car tracks cut into the tire and these cuts frequently develop into good sized gashes.

Overloading, the result of which is shown in Fig. 2, destroys the life of the rubber as well as the cushioning quality of the tires by overstressing them beyond their elastic limits.

Fig. 3 shows the result of excessive spinning of the wheels which compresses the surface of the tire and causes an even premature wear thruout. This same effect may likewise be the result of permitting the wheels to run out of line. It is well to remember that the slower a wheel turns, the better traction it has and the less liable it is to slip.

In Fig. 4 it can be seen that overspeeding causes premature disintegration. This holds true even with a light load because increased speed magnifies the impact of the tire on road bumps.

Fig. 5 shows how a tire may be entirely ruined by allowing the wheels to slide when the truck is brought to a stop or by turning corners so fast that it skids. If subjected to this treatment, the tire soon becomes excessively worn in certain sections and the whole surface of the tire becomes uneven, often showing gashes and cuts.

The tire shown in Fig. 6 has been unduly worn by neglecting to cut off slivers as soon as they appear. When a cut appears in a tire with the result that a piece of rubber is loose, this piece should be immediately cut off as otherwise the tear will enlarge until a large portion of the thread is torn loose.

Iowa Is Large Producer of Coal

The Iowa State College of Agriculture and Mechanical Arts has recently issued a booklet on "Iowa Coal." The booklet gives information on the origin of coal, location and extent of deposits in the state, kinds of coal mined, and the history and methods of coal mining.

Approximately 10,000 square miles, or one-fifth of the area of the state, is underlaid with coal seams which are workable. Probably an equal amount of coal is in an unworkable position. Iowa produces more coal than each of thirty-six states in the U. S. and a considerable portion of the state's population is supported directly by employment in the coal-producing industry.

IOWA *to* LAY 100,000 MILES *of* DRAIN TILE

IN A TALK at the convention of the Iowa Clay Products Manufacturers' Association at Des Moines, recently, Dean Anson Marston of Iowa University, Ames, Ia., outlined the great need for "Drainage of Highways." Road building in the past has usually been done with no regard for the soil beneath and the possible effect that the settlement of the sub-soil would have on the surface material.

The state of Iowa is now doing all in its power to compile specifications which will adequately cover the various conditions encountered in road construction, and drainage is considered one of the most important factors.

The importance of thoro drainage in highway construction is just being realized by highway engineers, Dr. Marston said. With the increasing use of the large trucks and their capacity to carry heavy loads it is being recognized by experts that a road must be built with some consideration for the load it will be obliged to carry. Dr. Marston is of the opinion that the weight of loads on trucks should be limited to a reasonable figure.

LAY DRAINS BOTH SIDES OF ROAD

Improper drainage is one of the greatest factors in the failure of highways and to insure best results drains should be laid on each side of the road making two miles of drain tile for every mile of highway. Furthermore, drain tile are just as important in building gravel roads or even dirt roads as they are for concrete, brick, asphalt, or any other monolithic material.

At present, Dr. Marston says, about forty per cent. of the milage of roads in Iowa is drained and that during the last year approximately 500 miles of drain tile were contracted for in that state. This year it is expected that 1,000 miles will be taken care of and that ultimately 100,000 miles of drain tile will be laid; these 100,000 miles to be installed in probably less than fifty years. In other words, the work of laying drain tile will go forward at a rate of 2,000 miles per year.

TILE MUST UNDERGO RIGID TEST

All drain tile used will be thoroly tested and must meet state requirements. Tests are made for strength, absorption and freezing and thawing. If any tile should fail to pass the absorption test, the manufacturer may, at his own expense, have recourse to the freezing and thawing test and if this test is successfully passed the tile will be accepted. The tests will in most cases be conducted in one of the six laboratories established at different parts in the state.

No tile of less diameter than six inches will be used as the smaller drains are not considered efficient for highway purposes. Sizes most commonly employed are six and eight inch and some larger sized tile.

Tile will be placed in one of three classifications, according to the manner in which the strength test is passed. The lowest order is "farm tile," those that do not withstand a strength test of over 800 lb.; "standard tile," showing a strength test of 1,200 lb.; "extra grade," registering the 1,600-lb. mark.

All cement tile are also subject to the afore-mentioned tests and it has been proved that concrete tile average about 800 lbs. in the strength tests, whereas the number of clay tile exceeding this figure is considerable. Actual tests show that comparatively few failures are recorded for burned clay tile. Concrete tile must also pass a chemical test devised especially to test the tile under certain soil conditions.

The BUILDING SITUATION *in the* EAST

THERE HAS BEEN a sharp advance in housing operations in different sections of the Eastern district during the past fortnight, particularly in what might be termed the "New York zone," and every indication points to increasing activities as the weeks advance. A big impetus in this direction has been the adoption of suitable laws to encourage work of this character, including the elimination of taxes on new dwellings.

The building material markets, and primarily brick, are showing the effects of the revival in home building and a noticeably increased call is prevailing for early deliveries. Burned clay products are maintaining a lead in the point of demand, and the encouraging aspects of the situation are resulting in more intensive work on the part of producers to inaugurate spring manufacturing operations on a broader scale than anticipated a few weeks ago. Industrial construction still shows a tendency to lag.

The labor situation continues to improve, both from the viewpoints of employers and employes. The situation in different Eastern sections is summed up in the following:

New England: In Greater Boston there is still a pronounced lag in construction operations of all kinds, but neighboring districts are showing a marked tendency to resume building work on a broad scale, and primarily in the line of residence construction. At New Bedford, Newton, Medford and Brockton, work of this nature is increasing, while at Worcester the popular inclination is for office buildings and other mercantile structures, and no less than five or six new buildings of the first noted class are projected for the business section during the coming season, ranging in cost from $100,000 upwards.

LABOR SITUATION

The labor situation is righting itself gradually in the New England districts, but this section is developing a record for disputes, disturbances and strikes. The state Department of Labor has recently issued a statement showing no less than twenty-six difficulties of this kind at the present time, and foremost among these is the strike in the building trades at Boston. The indications point to a reasonable settlement at an early date, particularly as considerable building work is piling up, awaiting action, as soon as the men are ready to resume. This dispute has been under way since January 20. A few contractors are proceeding with important operations, drawing upon such labor sources as available.

Brick manufacturing plants in this territory are reducing the wages of men at the yards, the prevailing average being about ten per cent. Among the prominent producers taking such action is the New England Brick Co.

BUILDING MATERIALS REACH LOWER LEVELS

Brick, burned clay and other primary building materials are taking a downward course in the matter of prices at Boston and vicinity. Hudson River brick is now being quoted by local dealers at $26 per thousand, as against a $28 figure a few weeks ago; Connecticut production has declined from $32 to $28. The call for common brick is slow, owing in a large measure to the current labor dispute. Water struck brick, kiln run, is retailing at $50 a thousand, and face brick, ruff texture, is quoted at $60 in the general average. Fire clay holds at $30 per ton, and fire brick shows stability at $80 and $90, in accordance with selection. Terra cotta partition blocks, 4x12 in. are being turned at $200 a thousand, while the 8x12 in. size are selling for $380. Other building materials, such as cement and plaster, show slight declines, and the indications point to further reductions.

New York: Housing operations hold the center of attraction in the metropolitan district and during the past fortnight a good volume of work of this character has come to the front. In one week alone, that closing March 19, plans were filed at the building department for housing structures to accommodate over 600 families. Due to the tax exemption ordinance, recently passed by the city, a literal "boom" in home building is coming about, and producers and material dealers are viewing the changed conditions of affairs with great satisfaction. The call for materials is on the increase and there is a certain stability in price levels that gives confidence to the prospective builder.

TWENTY-FOUR STORY BUILDING TO BE BUILT

Offices and mercantile buildings are also forging ahead and spring operations in this direction bid fair to be of decidedly profitable account. A new twenty-four story office building will be erected at Park Avenue and Forty-second Street at a cost of about $5,000,000, to be known as the "Pershing Square" building; the site has been acquired, and plans are being completed; a new hotel to cost $2,500,000 will be erected at Forty-third Street and Eighth Avenue, to be fourteen-story, brick and limestone, 75x200 ft.; erection will be commenced early in May.

A pronounced buying movement is under way in the New York brick market, and each day is showing a good number of inquiries and increased sales. The last weeks in March have been the most active periods for many months past and distribution has reached from twenty-five to thirty cargoes, with material decrease in stocks on hand. There has been a growing call from Brooklyn for residence work, and in one week no less than twelve cargoes found their way to this point.

ACTIVITY IN BRICK MARKET

Despite the increased call for common brick at New York, there is no evidence of any immediate change in prices. The level ranges from $15 to $18, with $16.50 to $17.50 the popular figures for sales. There are no quotations on material from the Raritan River section in the local market at the present time. Second hand brick is selling for $45 a load of 3,000. Building material dealers are asking slightly over $12 a thousand for good hard common stock, delivered.

Face brick is being carried forward to increased sales by the demands for common brick, and local dealers in this line view the situation in an encouraging way. Colonials are selling at $45 a thousand, delivered, with a like figure prevailing for red varieties, both smooth and rough; buff face brick is fetching $50 a thousand, while grays of popular shades are running close to the $55 mark. Interior partition tile holds at $220 a thousand for small size material, as 2x12x12 in., with a $320 level well established for six inch stock. Fire brick is firm at $75 and $80. Other burned clay goods, such as sewer pipe, drain tile, etc., are in fair call, with stability in prices.

HOUSING SHOWS MOST IMPORTANT DEVELOPMENTS

New Jersey: Different parts of New Jersey are taking pattern after New York, and intensive attention is being given to housing work. The Newark district, including the Oranges, Montclair and vicinity, show important progress in this direction, and the spring building season is opening up at an encouraging pace. The C. & K. Construction Co., Newark, is having plans drawn by Edward V. Warren, architect, for the construction of a new tapestry brick and limestone apartment on Summer Avenue, to house forty families. A number of individual houses will be erected in East Orange, plans for which are now being prepared.

The Newark building department is a good barometer of the trend of affairs and during the final weeks in March the bulk of permits issued was for dwellings to accommodate one and two families. Industrial work has reached a low point of decline and for a number of months past there has been no operation of any important scope in this direction. At the same time, indications point to a revival of work of this character.

Jersey City is one of the few cities of the state showing an increase in construction in recent weeks as compared with the corresponding period of 1920. Industrial operations are helping in this direction to a large extent, particularly the new plant work now under way by the M. W. Kellogg Co., Westside Avenue, manufacturer of riveted steel pipe, etc., and which will represent an investment of close to $3,000,000 upon final completion. Camden is also showing an indication to increase the building levels of a year ago, and construction work is quite active in this section.

STABILITY IN PRICES

Building materials are holding firmly to recently established levels and appearances point to the maintaining of present quotations for some months to come. It is not likely that spring construction will have any effect in this connection, for if greater reductions were to take place, they would have occurred during the slack period which now seems at an end.

Common brick is being held at $25 per thousand in the northern New Jersey districts, while $28 and $29 are the popular "on the job" figures at Trenton and vicinity. Producers in the latter place do not hold any immediate promise of reduction, altho when the different yards start up within the next few weeks, and labor is willing to accept a lower wage scale, it is likely that the saving will be passed on to the consumer. Fire brick prices range from $75 to $100 in different parts of the state, the latter being a top figure asked by producers in retail lots for prime material. Standard No. 1 price is averaging about $85 in the different cities. Face brick is responsive to the increased demand now ensuing for common brick, and inquiries for this material, particularly of buff and gray color are far more plentiful. A good season is anticipated in the face brick branch of the business, with housing work going forward at the present indicated pace. Sewer pipe, hollow tile, drain tile and other burned clay products are exhibiting increased importance and dealers with stocks of these materials on hand are not showing any great anxiety as regards the prospective market.

TAX EXEMPTION LAW REPEALED

The New Jersey Assembly has passed a bill repealing the five-year tax exemption law recently passed, applying to all dwellings erected in the state from October 1, 1920 to October 1, 1925. The bill has gone to the Senate for approval and seems certain of passing this branch of the state government. The new law has not proved popular.

Philadelphia: The Quaker City is "marking time" in the matter of construction work and the local inclination is to wait until costs are lowered. It is estimated that there is about $40,000,000 in new construction operations in sight just as soon as prospective builders are satisfied that declines will go no further; this work, for the most part, covers building that has been financed and not simply of projected character. The Industrial Relations Committee and the Philadelphia Operative Builders are giving concerted attention to the matter and efforts are being directed along logical lines to bring down the cost of labor and materials.

TRY TO REDUCE WAGE SCALE

Negotiations are under way with local labor organizations to effect a reasonable reduction in wage scales. Carpenters are being offered ninety cents an hour by contractors instead of a former wage of $1.12½; bricklayers and other primary workers in the industry will also be forced to engage under lower schedules.

Building materials at Philadelphia do not, as yet, show any general slump in quotations, in spotted instances, only, is there evidence of lower figures. It has just been announced by the Industrial Relations Committee of the Chamber of Commerce that local brick manufacturers have agreed to a twenty per cent. reduction in the retail price of material, as a result of the recent four-day construction conference. This will make a figure of $20 a thousand for common brick on the job instead of the $25 figure which has prevailed for many months past.

In a digest of trade conditions, the Federal Reserve Bank of Philadelphia, Third Federal Reserve district, sets forth that the brick business is now operating under a limited demand in this district; that prices are downward and that collections in this branch of the building trade are slow.

Face brick and other burned clay products are operating under a lagging call in the Philadelphia market, with tendency on the part of purchasers to push prices downwards. Fire brick holds at $80 and $85 and is engaging under a fair demand.

* * *

Production of Magnesite in 1919

The United States Geological Survey has published a booklet on the production of magnesite in 1919. The total amount of crude magnesite mined sold, or treated in 1919 is given as 162,000 short tons. The total amount of crude domestic magnesite was 156,226 short tons.

The greatest producers of magnesite in the United States are California and Washington. The total production of magnesite produced, sold or treated in California in 1919 was 50,020 tons, valued at $504,973. In Washington three companies, the American Mineral Production Co., at Valley; Northwest Magnesite Co., Chewelah; Western Materials Co., Valley, produced 106,206 tons of magnesite valued at approximately $743,442.

Practically all the magnesite produced in Washington in 1919 was made into synthetic ferromagnesite and went to steel plants and to manufacturers of refractory products. In the dead-burned form, either granular or made into brick, it is used as a refractory lining for open-hearth furnaces and converters in the steel industry, in copper converters, reverberatories, settlers, and electric and other melting and welding furnaces. Magnesite brick are used also for lining rotary kilns in the manufacture of Portland cement.

The magnesite produced in California in 1919 was used largely in the caustic calcined form for the manufacture of oxychloride or Sorel cement. This cement consists of finely ground calcined magnesite mixed with a solution of magnesium chloride. This mixture is generally modified by the addition of filler materials, such as sawdust, cork, talc, asbestos, clay, marble dust, and sand, besides coloring matter. The cement thus produced is sold under various trade names, commonly referred to as sanitary flooring. The output of the White Rock mine, Napa County, is used by Pacific coast steel plants as a refractory lining in their basic, open-hearth, and electric furnaces.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

LABOR SHORTAGE LIMITS PRODUCTION

WHILE there has been considerable talk of late about new pottery construction this year, those well acquainted with past and present conditions of the industry are a unit in the opinion that even should a dozen new potteries be placed in operation, the production would show little if any gain over what is possible if all existing plants were on a 100 per cent. basis.

The harvest may be great, but the laborers are few. It is a funny thing, but nevertheless a positive fact, whenever a whiteware pottery is ready to operate, or even contemplated, those at the head of the movement first turn their head toward East Liverpool, Ohio, the center of the industry in the United States, for workmen.

SUPPLY OF WORKMEN LIMITED

Whenever a skilled workman is taken out of the East Liverpool potteries, and given a similar position elsewhere, this does not in the least increase production. The vacated position is filled by the firm the workman left, taking a worker from some other plant.

It must follow that the place vacated in the second plant will be filled by a workman this firm has taken from some other manufacturer and then in the end a vacancy still exists; a jigger is idle or a caster position is open; there is still a vacancy in the dipping shop; there is still a vacancy in a glost or bisque kiln crew or somewhere else.

This situation is all caused because there is no one being trained to take the place of the skilled worker when the latter steps down and out, either from one plant to another or out of the trade entirely.

Therefore, pottery plant after pottery plant may be built, but the production is not increased. The laws of the various local unions of the National Brotherhood of Operative Potters have taken care of the situation. Their trade is "not permitted to become overcrowded." A good skilled, careful potter is always in demand. Apprentices are very few. A skilled potter working in the clay is not made in a day, altho some branch of the industry may be learned more speedily than others.

SEVERAL NEW POTTERIES TO BE BUILT

There are perhaps six or seven new potteries under contemplation. It is considered doubtful, however, if the majority of these projects ever leave the office of the designer.

The Pittsburgh-American China Co., which has spent $600,000 building a tunnel kiln pottery at Greensburg, Pa., has their plant completed but has set no date for operation. This concern must of necessity turn its eye toward the East Liverpool district for initial forces, or draw from individual generalware potter plants here and there.

The Empire China Co., of Burbank, Cal., will be ready to operate within three or four months, it is said. There are very few whiteware potters on the Pacific Coast. President William G. Jackson and General Manager John Rowe must secure skilled workers from the East Liverpool or Sebring, Ohio, districts, or from possible other scattering whiteware plants.

SEVEN KILN PLANT AT CAREY, OHIO

The Massillon (Ohio) Pottery Co., which now has a three-kiln plant nearing completion will have to draw its crews from the immediate pottery district.

Report is current that a seven-kiln whiteware plant has been planned for Carey, Ohio, by the Hume China Co. When this plant is built, this concern cannot pick up an operating force from its immediate vicinity, but like new concerns will of necessity have to turn its help solicitors into the eastern Ohio whiteware district.

Now comes the report that the Ohio China Co., of Zanesville, will put up a seven-kiln plant this summer for the manufacture of vitreous china dinnerware. There are potters in the Zanesville district, but the majority are skilled in other than the whiteware industry. This firm might pull some workers from the Crooksville, Ohio, district, or from the Wheeling district, but in the main it would most likely "draw" on East Liverpool or Sebring.

COLUMBIANA MUST GET WORKERS FROM SEBRING

Columbiana, Ohio, has come to the front within the last few days with a plan to build a five or seven-kiln plant there. This town is just across the county from East Liverpool. Naturally it would make an effort to pull workers from the Sebring and East Palestine districts and perhaps from Beaver Falls, Pa.

The Scio, Ohio, plant of the Albright China Co. will soon be ready to place in operation, and there is every reason for believing that this firm will seek a force to operate this plant from either East Liverpool, Carrollton, Sebring or Steubenville.

Now comes Malvern, Ohio, to the front with a plan to build a whiteware plant there. Should this proposition ever develop to the operating stage its owners would make a trip over the same ground for workers that others trod.

MUST DEPLETE OTHER PLANTS TO GET WORKMEN

The W. S. George Pottery Co., of East Palestine, Ohio, has contemplated building a five-kiln whiteware plant there for about a year. Construction would have been completed long ago had it not been for the scarcity of material and labor during 1920. This company would of necessity, perhaps, have to select its workers from other plants in the eastern Ohio territory.

Therefore, kiln upon kiln may be built and yet the output of the industry is not materially increased. It takes pottery workers to operate potteries, and it takes time to develop these craftsmen. Like in all trades, there is the "floater" in the pottery game, and this worker fits here and there, but he cannot be relied upon. The steady worker, however, is loathe to leave his position.

At times it is rather hard to keep full crews in plants outside the East Liverpool district. Once they leave they always come back. This is history. It would be better for new plants to be built in the East Liverpool district then all labor would be absorbed. But, the production is just of the same volume until the number of workers is increased.

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Potters Arrange for Sick Benefits

At a special meeting of the United States Potters' Association, held in the Blue Room of the William Penn Hotel, Pittsburgh, Pa., March 24, a tentative sick benefit plan was adopted to be placed in operation in all plants in the East Liverpool, Ohio, district the first full pay after April 1, 1921. All employes who have been on the pay rolls as long as three months can participate in these benefits which call for the payment of $7.50 per week, and $125 for surgical operations where such are required.

Those employes, such as kiln drawers and some day laborers who insist upon drawing their wages just as soon as a kiln is drawn, or when the laborer "gets in" his day, are barred from receiving benefits under the present rulings.

It is understood, however, that individual manufacturers can add any other benefit features they may be inclined to consider, but for a general basis the amount of benefits have been decided upon. No old age pension system or death benefit has been included.

The National Brotherhood of Operative Potters have a death benefit for members "in good standing," and the action of the manufacturers is entirely independent of any sick benefits the Brotherhood may deem wise to inaugurate in future.

⁂

Potter Suggested for Tariff Commission

William Burgess, for the last twenty years first vice-president of the United States Potters' Association is being urged to allow his name to be suggested as a member of the Federal Tariff Commission. Mr. Burgess is a resident of Trenton, N. J., and has been very active observing industrial conditions when in Europe and the Orient. It has been said of him that there is none better posted on tariff laws and situations than he. Not only is Mr. Burgess well posted on the tariff with reference to ceramics, but he has been broad enough to absorb information relative to other lines of industry, thereby possessing a knowledge of tariff subjects few others in the United States possess.

⁂

Controversy Over Tunnel Kiln Workers' Wages

William Hardy, assistant general manager of the Mt. Clemens (Mich.) Pottery Co., control of which is held by the S. S. Kresge Co., store syndicate of Detroit, Mich., has been spending several days in East Liverpool. This company has recently placed several tunnel kilns in operation, and a discussion arose betwen the kilnmen and the firm as to the "proper wage" for tunnel kiln work.

It is recalled that in all agreements between the United States Potters' Association and the National Brotherhood of Operative Potters there is nothing which has a bearing upon tunnel kiln placing and drawing. For placing and drawing updraft kilns the situation is fully cared for. It has been intimated that when discussions begin on the new 1921-1922 wage scale this year, the tunnel kiln subject may be taken up and a basis for tunnel kiln work established.

⁂

Manufacturers Assured of Orders

Joseph C. Davis, western salesman for the Knowles, Taylor & Knowles Pottery Co., has returned to the home office at East Liverpool, Ohio, after an early trip over his territory. "I found people were buying and that retail stocks are rather light. This indicates that manufacturers are bound to receive orders, for the distributors have to have stocks if they want to stay in business—and none want to retire."

⁂

Aged Clay Man Laid to Rest

William J. Allen, aged seventy-eight years, in former years widely known as a pottery kiln fireman, but of more recent years engaged in the clay brokerage business, is dead at his home in East Liverpool, Ohio, following a lingering illness. Mr. Allen represented a number of southern clay shippers in the East Ohio pottery district. He was a native of Pennsylvania, but a resident of East Liverpool for over half a century, and a life-long member of the United Presbyterian Church, also a member of Riddle Lodge No. 315 F. and A. M., of East Liverpool.

⁂

Texas China Clay Has Many Uses

The large deposits of china clay at Millican, Tex., are now being mined and a plant has been built there for the purpose of developing these deposits, a report states. It is claimed that the clay is superior to that imported from England by ten points. It is used in making alabaster, paints, paste, paper, tile flooring, soaps and various other articles.

⁂

Acquires Salesman for Eastern Territory

Leland Vodrey, a son of John W. Vodrey, head of the Vodrey Pottery Co., of East Liverpool, Ohio, has been added to the sales force of that firm, and his first stop was in New York. The western territory will continue to be covered by Thomas A. Copperstone of Ft. Wayne, Ind.

⁂

Pottery Manufacturer Interviews Governor

T. A. McNicol, head of the T. A. McNicol Pottery Co., of East Liverpool, Ohio, has returned to his desk after spending several days in Columbus in conference with Governor Harry Davis.

⁂

Will Build Additional Decorating Kilns

The Flannagan Pottery Co., which recently drew its first kilns at its new plant at Cambridge, Ohio, will soon let the contract for the building of a "pair" of decorating kilns. The company is manufacturing a line of tea pots and cooking ware.

⁂

Increases Capital 400 Per Cent.

The Acme Sanitary Pottery Co., May Street, Trenton, N. J., manufacturer of sanitary earthenware, has filed notice of increase in capital from $50,000 to $200,000.

Clay Manufacturers in their recent conven
methods, as nearly automatic as possible. “Pro

PROCTOR & SCHW

VITREOUS ELECTRIC INSULATORS
"Proctor" Dryer (truck type) with automatic truck moving device. Giving progressive, time-saving drying with perfect results, in the plant of a leading manufacturer of electric insulators—all the shapes difficult to dry.

ELECTRICAL PORCELAIN
"Proctor" Automatic Porcelain Dryer—compact, automatic in operation, makes great savings in time, labor, space and fuel. The machine shown here is installed at Cook Pottery Co., Trenton, N. J.

GRINDING WHEELS
"Proctor" Automatically Controlled Dryer installed at Precision Grinding Wheel Company, Philadelphia. This plant is equipped modernly throughout and their dryer keeps pace with their speedy production methods.

SANITARY WARE
Drying the most intricate patterns of Sanitary Ware for one of the foremost makers, this "Proctor" Dryer gives a uniformly dried product in much less time than other methods. Saves labor; eliminates spoilage.

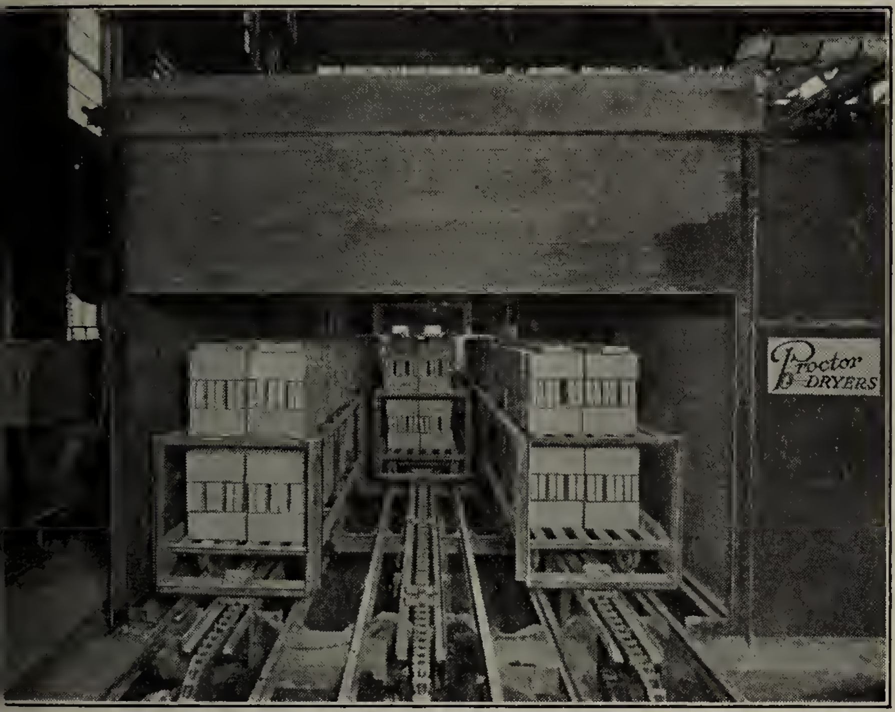
SPARK PLUGS
Spark Plugs of a well known make are dried in the "Proctor" Dryer shown above. We make efficient automatic machines for conditioning the clay rolls, for drying the finished shapes and for drying the cemented plugs.

tor"

RYERS

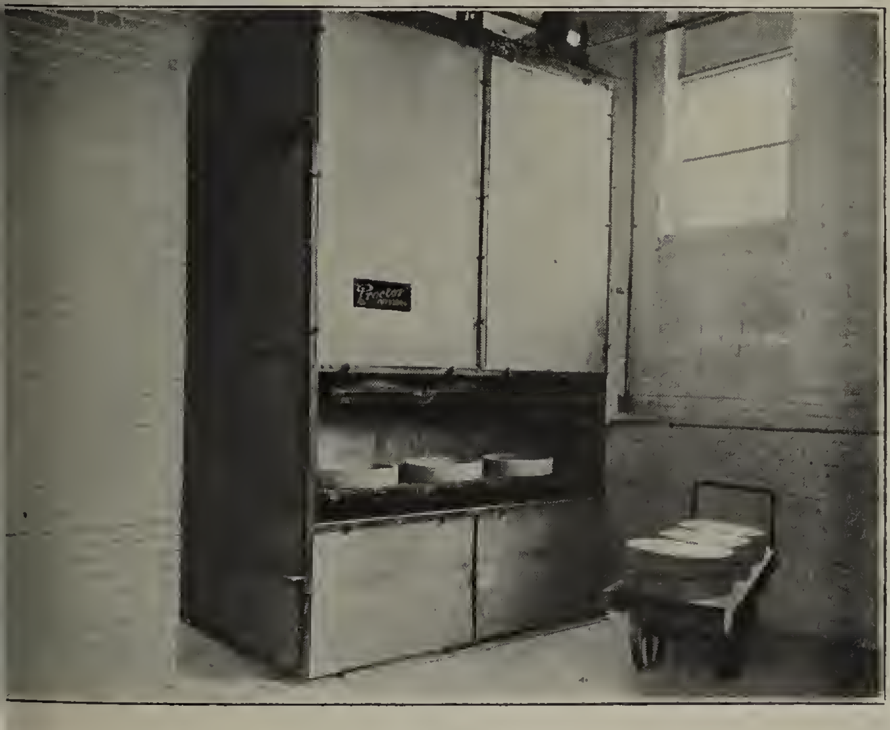
essed the need of more efficient mechanical
yers answer this need in the drying department.

INC., PHILADELPHIA



HEAVY CLAY PRODUCTS

Refractories, Hollow Tile, Conduit and other heavy clay products are dried with wonderfully economical results in this "Proctor" Dryer. Installation—Harbison-Walker Refractories Co., Wallaceton, Pa.



SAGGERS

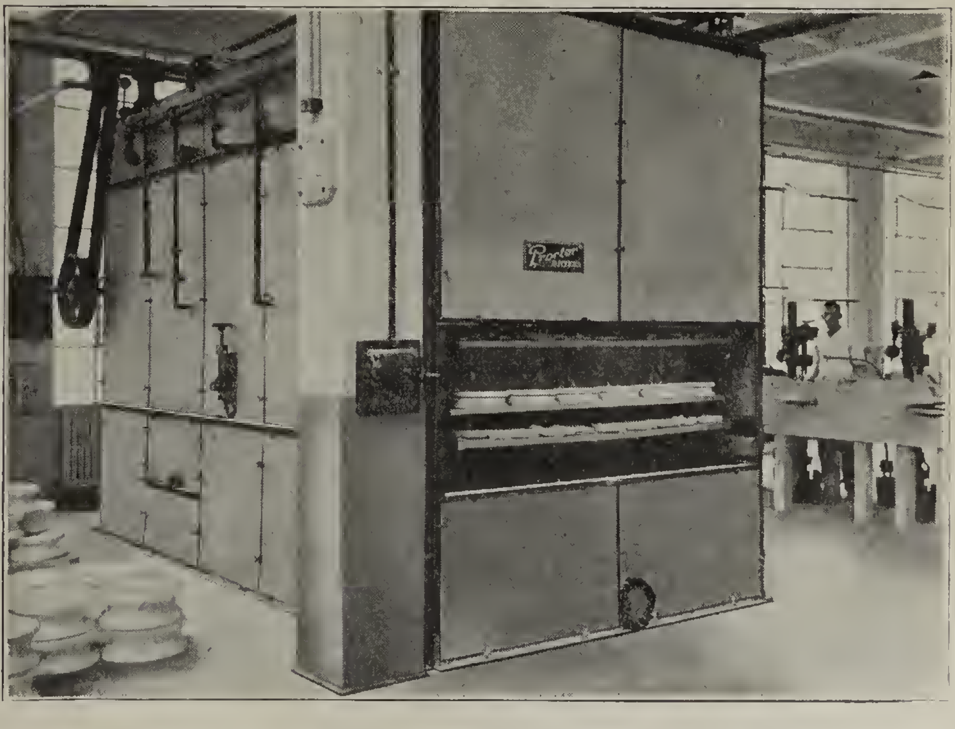
Installation of the "Proctor" Automatic Sagger Dryer. The aggers are dried quickly and uniformly. The savings of labor and loor space make this machine a very profitable investment.

GENERAL WARE

The "Proctor" Automatic Stove Room—dries both general ware and moulds by a continuous process requiring only 90 minutes, saving space and labor, insuring perfect quality. The machine shown is one of thirty-six used by the Mt. Clemens Pottery Co.

DIPPED WARE

The "Proctor" Automatic Mangle receives the ware directly from the dipper at one end of the machine and delivers it at the other end, with the coating firmly set and dry, in 30 minutes. Eliminates handling in moist state; insures better ware; gives greatest efficiency.



PORCELAIN SPECIALTIES

This automatic "Proctor" Dryer is working wonders of efficiency in the plant of Mitchell-Bissell Co., Trenton, N. J. It dries all their pressed ware and also dries their filter press cakes to the desired condition.

Million Dollar Sanitary Ware Company

Los Angeles has been selected as the seat of operations for a new industry, the All-In-One Co., enameled metal and porcelain sanitary fixtures manufacturers, which is capitalized at one million dollars, half paid in. A plant will be rushed to completion on half of a ten acre lot at Downey Road and Slauson avenue, and operations will commence about July 1, according to announcement. Edgar E. Wilker, secretary-treasurer of the company is in charge of offices and construction.

* * *

Will Build New Plant

The Standard Sanitary Mfg. Co., Pittsburgh, Pa., manufacturer of sanitary ware, has acquired property at the corner of Margaret Street and Ontario Avenue, Northside, heretofore held by the Pennsylvania Light, Heat & Power Co., for the erection of proposed additions to its plant. The company has awarded a contract to the Koerner Contracting Co., Louisville, Ky., for the erection of an addition to its Louisville plant at Sixth and Shipp Streets, to be equipped for the manufacture of porcelain plumbing fixtures. It is estimated to cost about $75,000.

* * *

China Company Organizes in Brooklyn

The Kent Avenue China Co., Brooklyn, N. Y., has been organized with a capital of $100,000 to manufacture chinaware. The company is headed by R. Deibel, J. H. Schwartz and M. Bergman, 1245 Forty-sixth Street, Brooklyn.

* * *

May Increase Capital One-Half

A meeting of the stockholders of the Wheeling Tile Co. is to be held at Wheeling, W. Va., March 31, to vote on the proposition of increasing the capital stock of the corporation from $400,000 to $600,000. This company has been in business many years, and is operating in one of the plants formerly a unit of the Wheeling Potteries Co., at that time headed by the late Charles W. Franzheim.

HOW UNINFORMED PERSONS SPREAD HARMFUL PROPAGANDA ABOUT BRICKLAYER EFFICIENCY

A RECENT MAGAZINE ARTICLE tells of a man who wanted to hire bricklayers, but could only get them with the understanding that they would not lay over four hundred or five hundred brick per day.

Maybe it is true, but it's all new to me. We have been hiring bricklayers all over the eastern and southern states, but we have yet to run against any union that fixed the number of brick we could expect a man to lay each day. Or, at least, they didn't tell us that they had fixed any such amount.

There have been jobs on which we found it impossible to get even four hundred brick laid per day, but that wasn't because of any agreement or understanding. Usually it was because of the nature of the work.

Recently, probably as a result of some of the investigations that have been going on, the daily papers have been full of very definite statements as to how many brick are laid by each man per day now and how many would have been laid in pre-war days. It is also noticeable that the more remote the author's connection with actual bricklaying may be, the more definite and positive will his statements be.

AMOUNT OF BRICK LAID VARIES WITH CONDITIONS

Those of us who get our living by a rather intimate connection with the construction industry know that the number of brick which a man can or will lay depends upon a great many conditions, any one of which may seriously affect the result.

For instance, a man might be building small piers and necessarily spend a third of his time selecting the brick, plumbing the corners and straightening his work. If the dimensions of the piers were such that brick had to be cut in order to work out right, then he might even spend two-thirds of his time in performing other necessary operations than the actual laying of brick. Under such circumstances three hundred and fifty brick might be a very good day's work.

Even such an apparently minor consideration as the composition of the mortar has a decided effect in determining the day's work. If cement mortar is used, an over-rich or over-lean mixture will greatly reduce the amount of work done.

QUALITY OF BRICK AFFECTS MASON'S WORK

A mixture of just the right texture will enable the bricklayer to greatly increase his production, and the addition of lime to the mortar will further increase the output. Using ordinary lime mortar instead of cement mortar results in a maximum number of brick laid.

Then the quality of the brick themselves has a lot to do with the result. Brick which are uniform in size, well formed with straight sides and square corners, are much more easily laid than those which are warped, twisted, and uneven.

During the past summer we had one job which had fairly thick walls, but which was very much cut up with window openings. Our poorest day's work was five hundred brick per man, and we ran up to twelve hundred brick per man.

The thickness of the walls has a most important bearing upon the day's work. Only the brick on the outside of the wall have to be laid to line, with uniform jointing maintained.

THICKER WALLS MEAN MORE SPEED

Thus, disregarding heading courses, a 12-inch wall has two-thirds of its brick on the outside, a 16-inch wall has only one-half on the outside, and so on. The thicker the wall is built, the smaller is the proportion of outside brick.

Among the other causes that affect a bricklayer's production are the wetness or dryness of the brick, condition of weather, temperature, services rendered by tender, etc, etc.

We, in the building business, are beginning to feel that some of those definite statements that are being circulated are not based upon any study of facts beyond a possible report upon the performance on some one job. But—such statements do have a tendency to make people believe that we builders are not influencing our employes to produce the best possible results.

This story was written by Chas. F. Dingman, of Palmer, Mass., who has had considerable experience in dealing with bricklayers and the bricklayers' union.

CURRENT PRICES *of* COMMON BUILDING BRICK DRAIN TILE *and* HOLLOW BUILDING TILE

COMMON BRICK continues its downward trend. It is hard to say just what these further reductions mean. Reports are current that not only manufacturers but building supply dealers are willing to cut prices down to the closest possible margin between profit and actual cost, in the hope that such action will start activity in building.

Out of eighty-four cities listed below thirty reported a decreased price in common brick ranging from fifty cents to $5 and five cities reported the price as having increased. Drain tile holds fairly steady, only seven cities showing a reduction, averaging approximately one cent, while four showed increases. Hollow building tile is also receding in price tho the decline is not general, affecting only eleven cities. In San Francisco, Cal., hollow tile advanced $12 and Winnipeg, Man. also reported an increase of $3.

The footnotes are explained at the bottom of the following tabulation.

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	$28.00	.12	
Boston, Mass.	25.00	.153	
Providence, R. I.	26.00	.16	
Hartford, Conn.	30.00*	.13	
New Haven, Conn.	30.00	.10	
New York City	22.70	.13	
Albany, N. Y.	30.00	.09	
Utica, N. Y.	27.00	.08	
Syracuse, N. Y.	25.00	.07	135.00
Oswego, N. Y.	35.00	.07	
Binghamton, N. Y.	26.00	.06	
Elmira, N. Y.	30.00	.08	
Rochester, N. Y.	22.50	.075	100.00
Buffalo, N. Y.	28.00	.055	150.00
Jamestown, N. Y.	35.00	.085	160.00
Allentown, Pa.	28.00	......	
Erie, Pa.	28.00	6.20c	140.00
Philadelphia, Pa.	25.00	.07	115.00
Pittsburgh, Pa.	20.00	.08	120.00
Reading, Pa.	21.50	.07	
Scranton, Pa.	25.00	.08	
Newark, N. J.	25.00	.09	81.10
Paterson, N. J.	22.00	......	
Trenton, N. J.	29.00	.10	
Wilmington, Del.	26.00	.10	125.00
Washington, D. C.	24.50	.08	125.00
Baltimore, Md.	25.00	.07	125.00
Norfolk, Va.	22.50	.10	
Richmond, Va.	25.00	.10	
Huntington, W. Va.	23.00	.075	110.00
Fairmont, W. Va.	35.00	.06	120.00
Wheeling, W. Va.	26.00	.075	120.00
Atlanta, Ga.	18.00	.125	
Miami, Fla.	33.00	.24	200.00
Tampa, Fla.	23.00	......	120.00
St. Petersburg, Fla.	24.00	......	150.00
Louisville, Ky.	23.00*	.045	117.90
Lexington, Ky.	22.00	.10	111.50
Memphis, Tenn.	18.00	.07	145.00
Nashville, Tenn.	17.00	.13	134.70
Birmingham, Ala.	23.00*	.15	116.00
New Orleans, La.	20.50	.09	
El Paso, Tex.	16.00	.....	90.00
Houston, Tex.	25.00	.14	113.10££
Dallas, Tex.	17.65	.15	120.00££
Topeka, Kans.	35.00	.065	110.00
Little Rock, Ark.	17.50*	.12	
Oklahoma City, Okla.	20.50	.05	88.50
Cincinnati, Ohio	23.00	.0708	80.00¶
Cleveland, Ohio	17.00	.061	70.00
Columbus, Ohio	28.00	.065	
Toledo, Ohio	30.00	.06	110.00
Detroit, Mich.	18.00	.08	105.00¶
Evansville, Ind.	17.00	.04	95.00
Fort Wayne, Ind.	21.00	.05	110.00
Indianapolis, Ind.	18.00	.06	135.00
South Bend, Ind.	22.00	.04	151.62
Terre Haute, Ind.	17.00	....	
Bloomington, Ill.	25.00	.06	100.00
Chicago, Ill.	16.00	.07	93.75
Moline, Ill.	24.00	.08	120.00
Peoria, Ill.	18.50	.06975	78.00
Green Bay, Wis.	18.00	.06	140.00
Milwaukee, Wis.	22.00	.06	130.00
Grand Rapids, Mich.	22.00	.....	
Minneapolis, Minn.	20.00	.08	135.00
St. Paul, Minn.	20.00	.08	135.00
Davenport, Iowa	25.00	.08	130.00
Des Moines, Iowa	....	.11	92.00
Sioux City, Iowa	21.00	....	105.00
Kansas City, Mo.	25.00	.0625	100.00
St. Louis, Mo.	21.00	.08	90.00
Lincoln, Neb.	21.00	.08	84.00
Denver, Colo.	16.00	.....	165.00
Butte, Mont.	16.00	.....	
Los Angeles, Calif.	15.00	.05	100.00§
San Diego, Calif.	20.00‡	.105	92.50§
San Francisco, Calif.	20.00	.065	112.00
Portland, Ore.	22.00	.085	115.00
Seattle, Wash.	19.00	.09	115.00
Winnipeg, Man.	19.00	.13**	181.00
Toronto, Ont.	18.00	.075	
Halifax, N. S.	27.50	.....	
Quebec, P. Q.	18.00	.065	

The prices of the commodities listed here are reported as delivered on the job, and are, therefore, higher than the plant prices. This should be taken into consideration when examining them. If you have any information that would tend to prove these prices incorrect, the editors of **Brick and Clay Record** will be glad to hear from you.

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% disc., 15 days.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipment; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

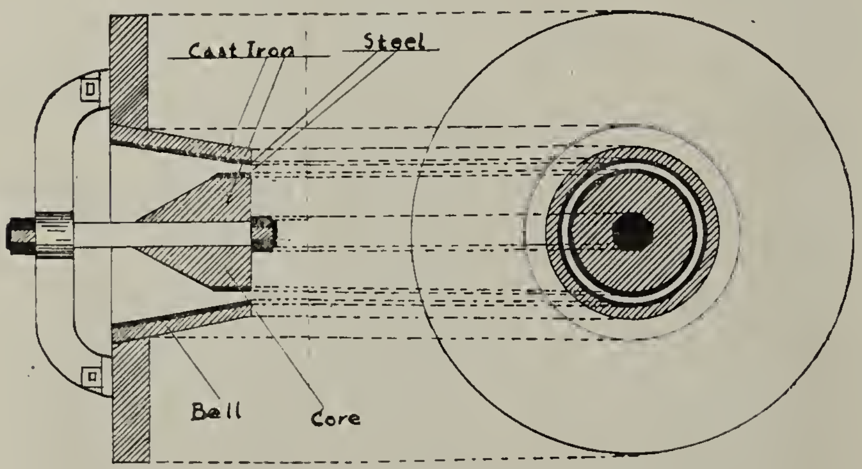
The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Lengthening the Life of the Die

The superintendent of the Sheffield (Ia.) Tile Co., who is an expert blacksmith, has hit upon a scheme for lengthening the life of the bell and core in the die. The bell and core are cast iron when purchased and the constant flow of the clay stream as it passes thru the die soon wears away the surface exposed.

The Sheffield Tile Co.'s enterprising superintendent remedied this to a large extent by the following method. Part of the interior of the bell is ground or cut out and a band of steel hammered in and welded into place. This is then cut down to the correct interior diameter. The same idea is applied to the core. The edge over which the stream of clay passes is cut down enough to permit a steel ring to be welded on the outside. This steel ring must then be ground down to the proper size so that when the two, the bell and the core, are fitted together the opening will be the required size. The steel, being harder than cast iron, gives a better wearing surface and enhances the life of the die greatly.



The Above Drawing Represents a Cross-Section and Front View of a Die. Tho the Die May Differ in Shape, the Principle, as Explained in the Article, Can be Applied to Others.

* * *

To Prevent Cutting of Rope Strands

Once in a while, in some way, a clay car will run up on the cable and a wheel will pass over it. This will kink and generally cut a strand or more of the cable close to the pulling hook. When this happens it is not long until several feet must be cut off of the cable and the hook rebabbited to it, with losses of time and cable. The best way, of course, is to prevent such things happening.

As an antidote, I took a three-foot length of water pipe of a size which would just slip over the cable and cut it into two-inch lengths. With a pipe reamer ream both ends of each two-inch piece of pipe, with the exception of the end of the first piece to go on the cable. Ream this just enough to get it on the cable, and no more. Ream all other ends to prevent them from cutting into the cable. If the first piece is reamed thoroly you will soon have short pieces of pipe strung along your cable.—*H L. Longenecker, Cambridge (Md.) Brick Co.*

* * *

Economical Quarrying of Hard Clays

In a clay bank, it happens that one encounters occasionally a bank of hard clay of which the importance is not worth the justification of the purchase, storing, and the use of explosives.

Essentials of Oxidation Period and a Suggested Procedure

There are three very important fundamentals to be observed in the oxidation period of burning clay ware.

1. A certain minimum temperature that will break up the materials that occur in the clay that require oxidation must be maintained.

2. The temperature should be low enough so that the ware is still porous and the gases liberated from the clay are not occluded in the mass.

3. Plenty of air is required, for, if we fill up the kiln with combustion gases we cannot expect any oxidation to occur.

Of course, it is also obvious that uniformity of conditions thruout the entire kiln is very essential.

The temperature at which oxidation is best performed varies with the different clays. However, most clays are oxidized at 1,200 deg. F. while fire clays usually require a temperature of 1,400 deg. F. It has been shown that a certain clay, when oxidized under ordinary conditions by the fire gases and admixed air required 88 hours, while only 30 hours were needed when the brick were kept surrounded by pure air in a muffle. Tho the conditions of a muffle kiln cannot be produced in the ordinary brick kiln, the fact remains that we can meet those conditions to a certain extent. This is done by stopping the firing of the furnaces when a temperature of 1,500 deg. F. has been reached, and allowing the kiln to remain unfired until the temperature has dropped 1,200 deg. F.

The place of the kiln gases is then taken by the pure air and oxidation will proceed far more rapidly than it would if a steady stream of fire gases were permitted to pass thru the kiln. The fires are then started again, and the heat is pushed up to the starting point, and the procedure repeated, until oxidation is completed.

Besides, there would sometimes be a disproportion between the mining cost and the value of the material by that means.

A simple and economical way to make the best of a bank of that sort is the following: with the help of a mechanical gimlet, a drilling machine, or any other tool, holes of 7 to 8 centimeters diameter (1 centimeter=0.393 in.) are made and of a depth equal to that of the bank. These holes get a certain inclination and are distributed in the aggregate, the first ones being located one meter (1 meter=3.2808ft.) to one meter 20 centimeters behind the edge of the bank. The holes are then filled with quick lime on which water is dropped. Thus, by means of small expense, this procedure will bring about the bursting of the bank of which the fissure will have been operated by the expansion of the lime in the holes due to the action of water on it.—*Translation from the "Review of Building Materials," Paris, France.*

⁂

Bridges in Hollow Ware Dies

It is a common mistake to use unnecessarily heavy bridges in the dies used for extruding pipes and other similar hollow ware. Each bridge must be kept a considerable distance behind the die and so add to the power required to drive the machine, whereas if they were lighter and kept closer to the outlet less power would be needed. By placing the bridges in suitable positions and strengthening them, where necessary, with light ties, very light and thin bridges may be used which do not block the machine so much as heavy ones, and consequently reduce the power required to drive it.

Many manufacturers do not take sufficient trouble to place the bridges and cores correctly, and are then compelled to use baffles and other makeshifts for adjusting the flow of the clay. Such errors in placing inevitably cause a serious wastage of power in driving the machine and sometimes they cause the die to crack on account of the excessive pressure to which it is exposed.

If a machine is properly designed, the clay will flow as uniformly as a liquid, and will be subject to similar natural laws. Hence, the smaller the baffles, etc., used to guide it, the less will be the pressure needed to cause the clay to pass thru the die, and consequently the smaller will be the amount of power needed for this purpose. As power is expensive, it is well worth while spending a considerable amount of time experimenting with an old die in order to see exactly the effect of baffles, etc., of different shapes and placed in different positions.

⁂

February Building Permits Show 69% Gain

Exceeding January statistics by over a fifty per cent. margin, February building permits offer optimistic hope of a real start in building activity.

Official reports from 196 cities to the "American Contractor" give a total of 27,261 permits, estimated valuation $96,493,229, as against 21,722 permits, estimated valuation $62,150,461, from 203 cities for January of this year.

While the valuation shows a marked increase over January, a decrease is shown when comparison is made with the $113,649,318 valuation of the permits issued in the same cities during the second month of 1920. However, the number of permits issued during that month was only 22,140, which would tend to show that altho the 1920 valuation was greater the contemplated activity was more restricted.

There are only twenty cities whose permits issued in either January or February of this year have gone over the million-dollar mark. Twelve cities passed this mark in January and sixteen in February.

Leschen Wire Rope Tramways

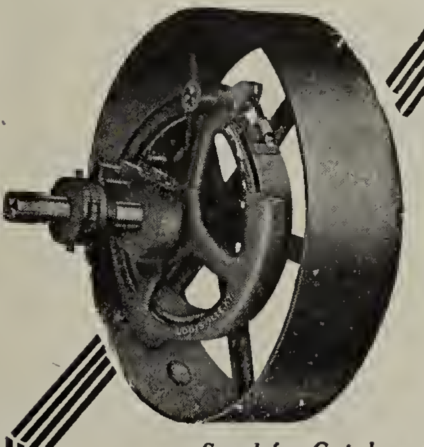
The efficiency of the Leschen Aerial Wire Rope Tramways for handling materials has been demonstrated by the actual operation of many installations.

We have had many years of practical experience in this line of work, and shall be glad to discuss your transportation problems with you.

Established 1857

A. LESCHEN & SONS ROPE COMPANY

New York Chicago ST. LOUIS Denver San Francisco



Clutch Supremacy

One good feature in a clutch does not make it the best. It's the consistent supremacy of all its parts and the continuity of the service it renders that makes a clutch superior.

Caldwell engineers have spent years in perfecting every feature of their clutches. They have planned with an eye to the future. They know that every Caldwell Clutch installation means years of unremitting service. The extreme simplicity, ease of control and adjustment, and the saving in waste power are responsible for the universal popularity of Caldwell Friction Clutches.

Send for Catalogue
W. E. CALDWELL CO.
Incorporated
400 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION CLUTCHES

ORIGINAL Boss SYSTEM **Boss Ten-Hour Dryer** ORIGINAL Boss SYSTEM

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

ORIGINAL Boss SYSTEM **J. C. Boss Engineering Co.**
Elkhart, Indiana ORIGINAL Boss SYSTEM

B G
STANDARDIZED MATERIAL-HANDLING MACHINES

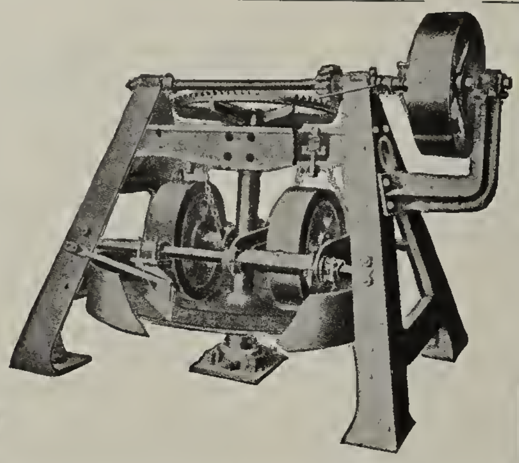
Barber-Greene-Co
Aurora-ILLinois.

Makers of the original B-G Standardized Belt Conveyors. B-G Self-Feeding Bucket Loader.

THE
EAGLE
DRY
PAN

Write for Prices

EAGLE IRON WORKS DES MOINES IOWA



RICKETSON'S
YOU CAN'T FADE 'EM
MORTAR COLORS

If they are colored with Ricketson Brand
Mortar Colors
Home builders demand a beautiful color with their brick. Ricketson's colors give brick charm, freshness and warmth in appearance.
40 years proves their permanency.
For Brick, Mortar, Cement, etc.
RICKETSON MINERAL PAINT WORKS
Milwaukee, Wisconsin

SALEM
ELEVATOR
BUCKETS

(Rear View)
Heavy construction throughout. Material over laps and is doubly thick at bottom corners and back. Solidly stamped and riveted together. A heavy duty bucket without an equal.

All sizes—all types, for every kind of work. Buckets of special style, size or gauge made to meet particular requirements. Prompt deliveries assured. Send for price list.

Mullins Body Corporation
Stamping Dept. "A"
101 Mill Street, Salem, Ohio
Successors to The W. J. Clark Co.

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Cost of Laying Hollow Tile

962. *Missouri—If you have any data regarding the cost of laying* 5x8x12 *tile,* 8-*inch wall, in the average residence building for stucco work, also for an* 8-*inch wall basement work no openings, and for an* 8-*inch wall in warehouses with some openings, the information would be greatly appreciated.*

We know of cases where the bricklayers require about as much to lay the block as the manufacturer receives for the block. The manufacturer has considerable capital invested and the bricklayer has none. We feel as tho the bricklayer either lays not enough block, or his scale is entirely too high.

We would also like to know what the scale in various cities is. Please let us hear from you on the subject.

The efficiency of tile setters varies considerably thruout the country. This efficiency has lately been increased—in fact it is now approaching the 100 per cent. point. The last experience the writer had in connection with the efficiency of tile setters was in October of last year, at which time I was able to secure an average of two hundred pieces 8x8x12 tile per day per man on ordinary residence construction containing the usual number of window and door openings and probably a little expense in the number of corners both internal and external. The rate paid at that time was $1.25 an hour, which is the standing rate today in Chicago for tile setters. This, of course, was for exterior load-bearing walls.

On interior partition walls where the units are generally 4x12x12, a larger number of superficial feet should be built by the average mason in a day of eight hours. In the Chicago district this is generally reckoned at 400 feet per day per man when experienced tile setters are used. Out in the rural districts laying up this same tile with men who are not accustomed to laying tile, they would probably be working very hard to lay up 250 or 350 square feet per day of eight hours.

At the present time Chicago pays the highest schedule (which is $1.25 per hour) to tile setters of any city thruout the country. The general rate is somewhere in the neighborhood of 90 cents to $1.10 per hour.

* * *

Can Brick Be Used for Foundations?

965. *Idaho—The state is contemplating moving the State Normal School from its present site to Burley, and as we are desirous of furnishing as many brick as possible in its erection, would appreciate receiving any information or literature pertaining to the use of brick for foundations in buildings.*

Kindly state candidly if you think that brick has any advantage over other materials for foundation purposes. As the use of brick for foundation purposes is something new in this part of the country, it will be essential for us to have some good arguments in our favor before we could induce the architects to try them.

This inquiry was referred to Ralph P. Stoddard, secretary-manager Common Brick Manufacturers' Association, who

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

stated: "There is no question about brick being an ideal material for use in foundations. Concrete has taken the place of brick in foundation work to a large degree simply because the cement manufacturers have pushed the material, while the brick men have kept still.

"A brick foundation can be as effectually and cheaply waterproofed as can the concrete foundation. The chance for failure of brick in a foundation is more remote than in any other material except stone. Every mix of concrete depends for its quality upon the honesty of the contractor and the watchfulness of the man on the job. One poor mix can weaken the entire structure.

"Many contractors use cement because they believe they are saving money. But if they will take into consideration the cost of the equipment necessary for mixing and pouring concrete, the expense of hauling this equipment to and away from the job, and the expense of wood for forms, I doubt very much if they will find any saving. If they use local brick on the job they are not paying any excessive freight rate. Every other material has to be shipped some distance and they are buying a large measure of transportation, while with brick they are buying material only."

⁂

Would You Use Sewer Pipe Flues?

966—*Nebraska—We are considering using sewer pipe for hot air ducts to connect our kilns to the fan of our hot air dryers. Have you ever heard of this being done before, or could you give us any information as to advisability of doing this? What sizes would you recommend being used? The longest pull of air is about* 150 *feet.*

The difficulties in using sewer pipe for hot air ducts for your waste heat flue system would be that an extremely large sewer pipe would probably be required because the cross section of the duct should be equal to the intake area of the fan. It is doubtful that standard sewer pipe will be of sufficient size.

There is some possibility that the vitrified sewer pipe will crack when a hot kiln is connected to the flue due to the sudden changes in temperature. A brick flue would not be so likely to crack due to these causes and in the long run would probably be more satisfactory.

⁂

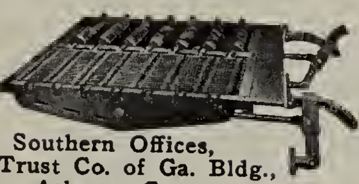
Does Machine Control Bloating of Brick?

967—*Iowa—In one of your recent issues I read an article with regard to the checking of the appearance of carbon in the burning of clay products. This article stated that there was a recorder on the market that could be used to regulate this work.*

We have experienced some trouble with carbon bloating our brick, and wish to find some remedy if possible. We wish to be advised where we can obtain a carbon recorder.

We believe that the article that appeared in the March 8 issue of *Brick and Clay Record* regarding a machine for checking

USE OIL—The Ideal Fuel
Meet **FALLING PRICES**
By **INCREASED EFFICIENCY**
And **LOWERED COST OF PRODUCTION**
Results Guaranteed With
"CAHCO" COMPLETE OIL BURNING SYSTEMS
C. A. HOPPIN & COMPANY
Engineers—Constructors
Central National Bank Bldg. Peoria, Ill.
Monadnock Block Chicago, Ill.

BURN ANY COAL
Never mind the quality; put it up to
CANTON Rocking and Dumping Grates
to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.
For Boiler and Kiln Grates

Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.
CANTON GRATE COMPANY
1706 Woodland Avenue,
Canton, Ohio

THWING PYROMETERS
IN CLAY BURNING

SAVE FUEL
Save Burning Time
Write for full information
THWING INSTRUMENT CO.
3347 Lancaster Ave.
Philadelphia, Pa. 99

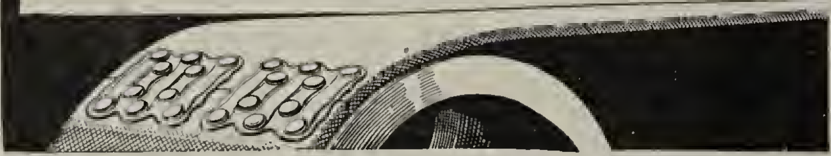
ONE MAN DIGGER
for the CLAY and TILE PLANT PIT
Designed especially to handle material for the average brick or tile plant.
Dependable, efficient, economical—oil engine operated
LOW IN PRICE—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.
Write for complete data
BAY CITY DREDGE WORKS
2619 Center Avenue :: Bay City, Michigan

CRESCENT BELT FASTENERS
"Make Good Belts Give Better Service"

Once on, Crescents are on to stay. A Crescent joint will outlast the most durable belt. No part of belting is punched out or weakened. Maximum strength maintained. Belt runs same as endless on pulley side. No knocking or thumping. Noiseless. Joint hugs pulley. Full power transmission insured.

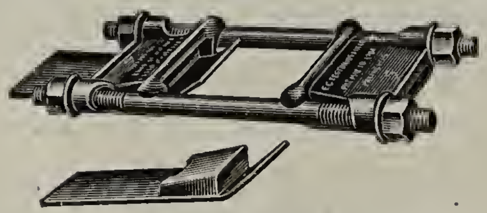
Write for new Booklet W on Increasing Belting Efficiency.

CRESCENT BELT FASTENER CO., 381 Fourth Ave., New York
Canadian Branch: 32 Front St., West, Toronto, Canada
England: 32 Paradise St., Birmingham



TECKTONIUS

Malleable Iron Kiln Band and Plate Fasteners



The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

E. C. TECKTONIUS MFG. CO.
1202 Racine treet RACINE, WISCONSIN

Gilmer Solid Woven BELTING

Efficiency in meeting abnormal conditions of grit, dust, moisture, heat and gas stamps Gilmer Solid Woven Belting as ideal for the brick and clay field.

Wherever Gilmer has been placed in operation it has given unbounded satisfaction—usually with a surprising decrease in operating cost. Stretch and shrinkage practically disappear while wearing quality is remarkable.

L. H. GILMER CO.
PHILADELPHIA, PA.

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

carbon in the burning of clay products was misunderstood in this case. This instrument will check only the carbon in the form of oxides of carbon, that is when it is in the gaseous state in the atmosphere of the kilns, and this has no bearing upon the carbon in the brick or tile itself.

The only way to regulate the burning of your brick so that you are not troubled with bloating is to watch carefully the oxidation period. Nearly all clays contain carbon or organic materials. Combustion cannot take place without the presence of oxygen. Oxidation must be done at the temperatures at which the clay is still porous. The temperature at which oxidation is best performed varies with different clays. However, most clays are oxidized at 1200 deg. F.

To accomplish oxidation two things are very necessary.

1. The temperature must be held at the range during which oxidation takes place for the time being.
2. Plenty of air is required in the kiln.

The object of the oxidation period is to drive or burn out the carbon at the minimum temperature with lots of air. Smoky air does not oxidize. Some seem to think that temperature is the only essential during the oxidation period, but plenty of air is also very essential. One very important item in the oxidation of clay ware is to have the furnace grates clean.

To determine the progress of oxidation of your ware simply draw a brick thru the wicket and break it open. If the carbon is not completely removed the piece will have a black core in the center. On the other hand, if the ware is sufficiently oxidized, it will be uniform in color and appearance thruout the whole cross-section. The kiln should be opened up and sealed again and pieces drawn out at various intervals during the oxidation stage until a brick is finally taken out which shows a uniform color and texture. It is essential that these test pieces must correspond in size to the ware that is being burned.

There is a recorder on the market that automatically records the analyses of gases in the kiln and this was described in the March 22 issue of *Brick and Clay Record* in the "Superintendent" department. There is undoubtedly room for extensive use for these recorders in the clay plant.

The LETTER BOX

A Place Wherein Letters
That Have General Interest Are Published and
Commented Upon

Suggests a New Size for Brick

The articles on the new brick hollow wall which appeared in the February 8 issue of *Brick and Clay Record* aroused considerable interest among brick manufacturers thruout the entire country. Many letters discussing this subject were received, but the one which is published below is of more than ordinary interest:

"I have read with a great deal of interest your write-up of February 8, describing the new brick hollow wall.

"A hollow wall of brick is, of course, very desirable not only from the fact that it lessens the number of brick used and the weight of the wall, but also the comfort of the building as it makes it absolutely impervious to dampness, heat and cold. The blanket of dead air which circulates from bottom to top, the bottom being below frost line, makes it, of course, the most perfect non-conductor of cold possible.

"I would suggest, however, that a better form of hollow wall than laying the brick on edge with a header brick every eight inches, would be to make the brick nine inches long by three inches wide instead of the present standard of two and one-quarter inches by eight and one-quarter inches. By using this brick and laying a header after six stretcher brick instead of one will require exactly the same number of brick to build a nine inch wall as required in the way you suggest it laying them on edge with a header brick every eight inches.

"This construction will be better in appearance as it will not change the present way of facing a brick wall. Ordinarily the side of a brick does not make as nice a face as the edge. Besides it will still permit of the various ways now used in making mat brick attractive.

"This form of construction will not interfere with the present way of selecting face brick but would require the use of the same size brick for common brick. This form of hollow wall is desirable for all kinds of buildings.

"It does seem strange that the solid brick wall which permits water to follow the mortar thru should have been used for so many centuries, but when our attention is called, that it took over two thousand years for man to learn that it is possible to put on a shirt without climbing thru it, we understand why custom is so hard to change.

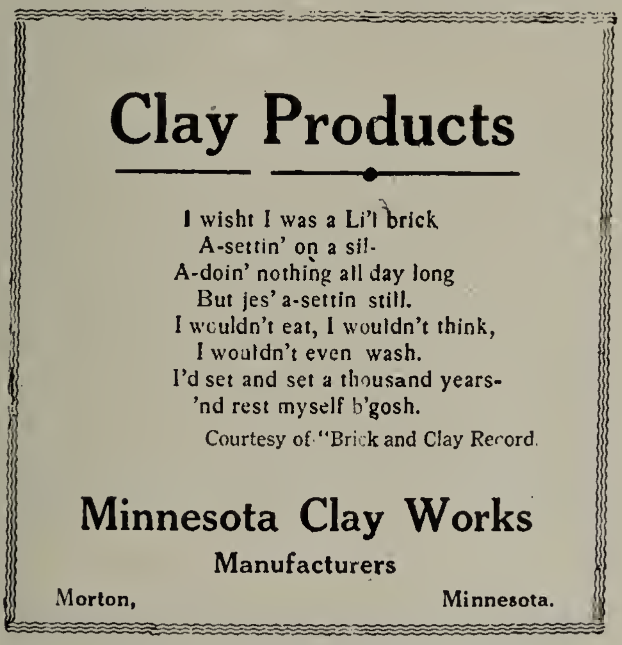
"When lumber was plentiful, cheap and easily secured Americans formed the habit of making their homes of the same material matches are made. Just why they should prescribe fire limits in that part of cities where their goods are kept and have no restrictions about putting fire traps where the lives of their families are in constant danger, is just as strange as the shirt story. Yet, only a few modern cities have broken away from that bad habit. When the others follow such modern cities as El Paso and Denver, the annual fire loss will be reduced more than enough to pay the extra cost of building permanent houses.

"Recently a revenue collector who had been accustomed to allow five per cent. depreciation on wood homes, estimating the life of such buildings at twenty years, told a tax payer he was allowed depreciation according to the time his buildings were expected to stand, who answered that he did not know but they had already stood four hundred years and he supposed would last that much longer. He was allowed one-fourth of one per cent. depreciation. The houses were masonry, located in the Isle of Wight. This tax payer is very proud of this home of his ancestors. How about yours?"

We believe that the above letter contains some pertinent points which merit considerable thought. *Brick and Clay Record* will be glad to have opinions expressed on the suggestions made by C. W. Martin, president of the Phenix Clay Corporation, Dallas, Texas, who is the author of this interesting epistle.

Believes in Local Advertising

Printed below is a letter and fac-simile of advertising copy used by the Minnesota Clay Works, of Morton, Minn., which shows how this concern has used items appearing in *Brick and Clay Record* to aid in the promotion of their products.



Clay Products

I wisht I was a Li'l brick
A-settin' on a sil-
A-doin' nothing all day long
But jes' a-settin still.
I wouldn't eat, I wouldn't think,
I wouldn't even wash.
I'd set and set a thousand years-
'nd rest myself b'gosh.

Courtesy of "Brick and Clay Record.

Minnesota Clay Works
Manufacturers
Morton, Minnesota.

A Clever and Snappy Piece of Local Advertising. The Poem Was Reprinted from an Old Issue of "Brick and Clay Record."

"Replying to your letter of March 2, we wish to thank you for permission to use material that has appeared in the *Brick and Clay Record*, to promote the sale of clay products in our territory.

"We are pleased to enclose herewith a clipping which we

PYROMETERS FOR THE KILN

BRISTOL'S

is the pioneer industrial Pyrometer. They are made to stand up under the stress of daily use. That is the reason Bristol's are well adapted for the Brick Kiln requirements.

See Bulletin AE-291.

THE BRISTOL COMPANY, Waterbury, Conn.

Buy Your Cars for Service Satisfaction

The best judges of car performance are the workmen who use them. They know which ones require the less power to handle, and which ones give the longest satisfactory service.

Your workmen have a pronounced preference for CONCO CARS, because they embody all the charateristics which make cars better for their special job.

PULLEYS GEARS and HOISTS
HYATT ROLLER BEARINGS IN STOCK.

H. D. CONKEY & COMPANY
MENDOTA :: ILLINOIS

Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?

The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
409-11 Jefferson Avenue E.
DETROIT, MICHIGAN

Toronto
"Means"
Dependability

You can *depend* on
Toronto Clay Working Machinery
for Results

■

SEND US YOUR INQUIRIES

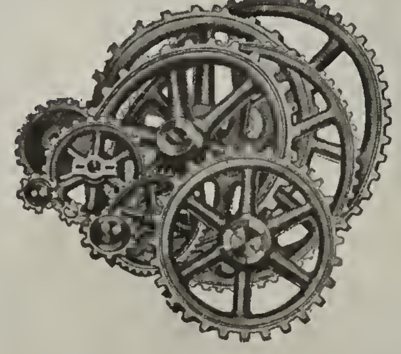
Toronto Foundry and Machine Company
Toronto, Ohio

CALDWELL
ELEVATING, CONVEYING, POWER TRANSMITTING MACHINERY

Bucket Elevators, Buckets, Boots, Steel Elevator Casings, Belt Conveyors, Screw Conveyors, Cable Conveyors, Gears, Pulleys, Sprockets, Chain Bearings, Shafting, Screens.

H. W. CALDWELL & SON CO.

CHICAGO **17th St. & Western Ave.**
New York **Dallas, Tex.**
50 Church St. **709 Main St.**



ran in our local paper this week. This little poem appeared in one of last year's *Brick and Clay Records.*

"We are now looking thru our old *Brick and Clay Records* for other suggestive material that would be of help to promote the sale of clay products. We will be pleased to send you further clippings or papers in which the *Brick and Clay Record* has helped us."

There are many items published in *Brick and Clay Record* thruout the year that could be used very handily as suggestions or incorporated in copy for advertisements. It seems that too few clay men realize the value of advertising of a local nature to connect up with the national advertising now carried on by various branches of the industry, and as a result this phase is often neglected.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Well Known Chemist Passes Away

Jacob Hasslacher, well known in chemical circles, died at his home in New York City, on March 15, 1921, at the age of sixty-nine. Mr. Hasslacher was also well known in the clay products industry as a manufacturer of chemicals used in the production of brick, tile and so forth. He was a member of many prominent national and local associations always having in mind the advancement of the arts and sciences. At his death, Mr. Hasslacher was president of the firm of Roessler & Hasslacher, manufacturing and importing chemists. He is survived by his widow, two sons and four daughters.

Illinois Brick Co. Has New Director

The Illinois Brick Co., of Chicago, will have to divide its dividends with a new stockholder hereafter. On Monday, March 21, Wm. Schlake, Jr., became the father of Wm. Schlake, No. 3, a healthy youngster with a voice already of sufficient strength to gain his points.

Alabama Plant Will Be Finished Soon

Construction work on the plant of the Alabama Brick & Tile Co. is soon to begin, according to a report. The plant will be completed in probably less than three months and operations will then be begun. It is planned to manufacture drain tile and brick.

To Start Brick Plant in Alabama

Possibilities of erecting a brick plant in Tuscaloosa, Ala., are being considered by G. W. Tidd of Selam, Ala. Mr. Tidd is considering the establishment of a plant to cost approximately $25,000 with a capacity of 20,000 brick daily, it is reported.

Birmingham Plants All Operating

All of the building brick plants of the Birmingham, Ala., district are now working at normal for the first time in six months. This is the clay working center of the southern states, and the fact that all of these plants are now in operation after being closed down for a half year is very encouraging news to the builders of the entire south.

As fast as brick can be manufactured they are being shipped to various points in Alabama, Georgia, Mississippi and other southern states. The price has been reduced from $24 per thousand to $17 per thousand.

The reopening of these plants is due to the fact that building has been resumed all over the south and many thousands of building brick are being used on this account.

On account of the cessation of building enterprises all of the brick plants in this district were practically out of business last September. The indications are that these plants will be in operation all summer and that there will be a demand for all the brick they can turn out. Since last September there has been an adjustment of labor and other costs in the manufacture of brick, making the cost of manufacture at a price nearer normal than for many months. Coal is also more plentiful and can be bought at a price much lower than for a number of months, which also reduces the cost of brick production considerably.

There is more building being done in the Birmingham district and in the southern states generally at this time than has been done since before the war.

Magnesite Company Incorporates for $500,000

The Sampson Magnesite Co. has been incorporated in San Francisco, Cal., to mine and manufacture magnesite and clay products. Capital stock is $500,000 with shares at par value of $1 each.

Los Angeles Concern Builds Refractory Plant

The Pacific Clay Products Co., formerly known as the Pacific Sewer Pipe Co., of Los Angeles, Cal., has announced plans for the erection of a refractories manufacturing plant at Los Neitos. It is reported that the new plant is to cost $150,000 and will have a capacity of 25,000 fire brick daily which will later be increased to 40,000. The Los Neitos plant will also manufacture vitrified sewer pipe in large quantities.

Opening Abandoned Plant

Brick from clay that was once said by some contractors to be of the finest in the state is again to be made at San Luis Obispo, Cal., by Faulstich Bros., brick contractors of Long Beach, Cal., who have reopened the abandoned plant of the San Luis Brick Co. Operations are expected to commence early in April. New machinery and equipment is being installed. Hollow tile will also be made.

Says City Should Work Clay Deposits

Establishment first of a kiln in Riverside, Cal., and later more clay products manufacturers of different kinds was advocated by Karl Martin, leading citizen, in a talk to the Rotary Club of that community. He said that the city of Riverside should use every effort to take advantage of the large clay deposits to be found in Riverside county. The city is near the Alberhill clay mountain.

Business Picking Up Noticeably

Brick is still being piled up in the various yards thruout California but activity is not to be lessened according to the manufacturers in San Francisco, who are preparing for a large demand for their materials in the very near future. Contractors and builders are preparing also to take advantage of the end of business depression which is already in sight on the Pacific coast. Almost every line of business is feeling the effects of a better feeling industrially. Retail merchants in various lines report that more money is in circulation during the last few weeks than had been formerly for some time. A

THE SCHAFFER POIDOMETER
WHAT IT WILL DO

It will

—unite any number of materials in correct proportion.
—deliver them to the pug mill in any predetermined number of lbs. per minute.
—deliver water at any predetermined number of pints per minute.
—produce a clay column evenly tempered of absolute uniformity.
—do this and it eliminates the pug mill man.
—reduce the cracking because the dry house man knows the material.
—reduce burning loss because the burner can always produce the same color and hardness.
—pay for itself in one year by reduction it causes in labor alone.
—produce a higher quality and greater quantity of first class ware.

You cannot afford to be without it. Investigate.

The Schaffer & Equip. Engineering Company
Peoples Bank Bldg. Pittsburgh, Pa.

Get the Best Results Economically

The MARION RUST SPECIAL affords a perfect, uniform mix at all times, keeps the off-bearers continuously busy and costs less for upkeep than the slow hand methods which preceded it.

Every modern clay plant uses the MARION. It is a vital piece of necessary equipment which must not be overlooked while efficiency counts. Saves the labor of 2 or 3 men. Speeds production and insures better ware.

Let us send you our catalog concerning all MARION equipment for the clay plant.

Marion Machine Foundry and Supply Company
Box 395 MARION, INDIANA

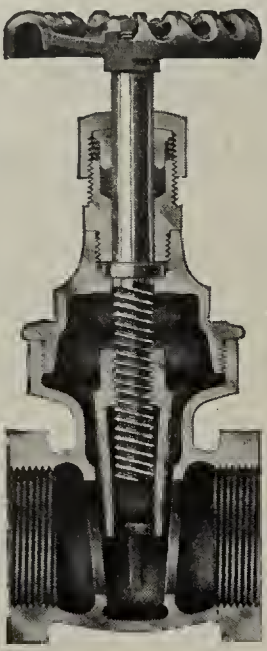
REG. U.S. PAT. OFF. TRADE JENKINS MARK

Jenkins Bros

Jenkins Brass Gate Valves

(Standard Pattern)

Fig. 370 is designed for 125 pounds working steam pressure or 175 pounds working water pressure, and can be repacked when wide open under pressure. Equipped with non-heat hand wheels; or can be furnished with brass wheels, finished or plated, or special finish according to requirements.



Sectional view of Figure 370.

Figure 370

Sold at supply houses everywhere. Look for the Diamond Mark on the body.

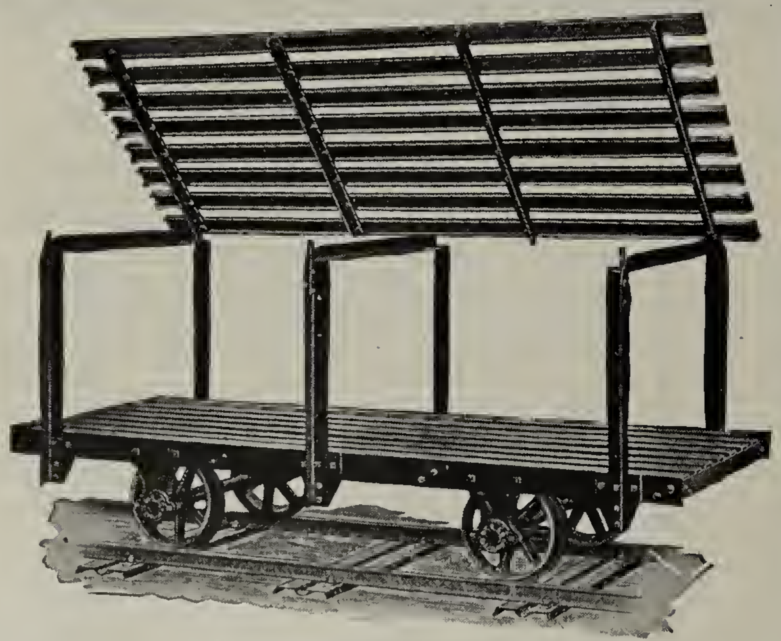
JENKINS BROS.

New York, Philadelphia, St. Louis, San Francisco, Chicago, Pittsburgh, Boston, Washington, Montreal, London, Havana

FACTORIES:
Bridgeport, Conn., Elizabeth, N. J., Montreal, Can.

2268-J

Jenkins Valves SINCE 1864



Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

R

FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

purchasing movement on the part of the general public has commenced they say. Abundant crops also assure widespread prosperity in California and all the brick that is now being piled will be used very soon in the opinion of those who have their ears closest to the ground.

Georgia Freight Rates on Brick Advance

Revoking the decision of the Georgia state commission the interstate commerce commission has decided to advance freight rates on brick in that state twenty-five per cent. This is another instance in which the interstate commerce commission has exercised the power vested in it by the transportation act of congress to override the decisions of state commissions in the matter of fixing freight rates.

Aurora Clay Company Starts

The Hacger Brick & Tile Co., Aurora, Ill., started operations March 30, after having been idle for some time. An optimistic view is taken of the outlook for building operations.

Chicago to Build 25 New Schools

Chicago is in dire need for more public schools. Every school in the city is overcrowded, and in many instances portable buildings for class rooms have been constructed in the playground space adjacent to the schools to accommodate the overflow of pupils.

Plans are now under way to construct twenty-five new schools thruout the various sections of the city to accommodate the thousands of pupils now required to remain in overcrowded classes.

Residence Construction Increases 190 Per Cent.

March showed a continued gain in the issuance of building permits in the City of Chicago. In the monthly report issued by Building Commissioner Chas. Bostrom it was shown that the number of permits for houses and bungalows jumped 190 per cent. The increase was from 181 in February to 525 in March.

Permits for apartment buildings increased eighty per cent., from forty-one in February to seventy-four last month. In March, 1920, only five such permits were issued.

The gist of the commissioner's report is contained in the following tabulation:

	March, 1920.	February, 1921.	March, 1921.
Residences	276	181	525
Apartments	5	41	74
Industries	185	75	121
Others	14	14	30
Totals	480	311	750
Frontage, feet	17,745	10,608	29,140
Value	$10,600,100	$15,366,000	$7,320,100

The value of the buildings for which permits were issued in February was swelled by those for three costly loop structures.

Illinois Brick Co. Purchases 26 Acre Tract

That the Illinois Brick Co., Chicago, Ill., has faith in the future of the building industry and more particularly the brick business, is evidenced by the purchase by that company of twenty-six acres of land near the section of the city known as Edgewater. The consideration is reputed to have been $50,000. At present the Illinois Brick Co. has a large brick plant northwest of the land recently purchased. The newly acquired property will be used later on and brick is to be manufactured there.

Statement Shows Concern Is Sound

At the annual meeting of stockholders of the Idaho Fire Brick Co., Troy, Idaho, held on March 8, 1921, the following officers were re-elected: W. M. Duthie, president; C. V. Johnson, vice-president; Charles Amos, and George Saad, directors. C. C. Hoyt, attorney, was elected director to succeed August Johnson, who has left Troy. J. B. Watson was reappointed manager, secretary and treasurer. The auditor's report showed the books to be in proper shape and the financial condition of the company was also shown to be very good. The manager's report showed that goods equal to 5,100 tons had been manufactured. Net cash receipts were $100,000; paid out in wages, $42,000.

Company Withdraws from Indiana

The Rowland Block Coal & Clay Co., an Ohio corporation, has withdrawn from Indiana.

Continued Work Thruout Winter

The Adel (Ia.) Clay Products Co., of which H. R. Straight is general manager has been operating continuously thruout the winter. Orders for drain tile are coming in, enabling the company to reduce its stock which was accumulated during the winter.

Has Begun Season's Run

T. J. Neiswanger has started work at his plant at Harvey, Iowa. This concern is known as the Standard Clay Products Co. and has another plant at Oskaloosa, Ia. The latter plant will probably begin to operate within a short time.

Will Erect New Plant in Iowa

The Mason City (Ia.) Brick & Tile Co. has preliminary plans under way for the erection of a new plant at Nevada, Ia., estimated to cost about $250,000 with machinery. The plant will be equipped for the production of building brick and tile. B. C. Keeler is head.

Puts in Two Tile Machines

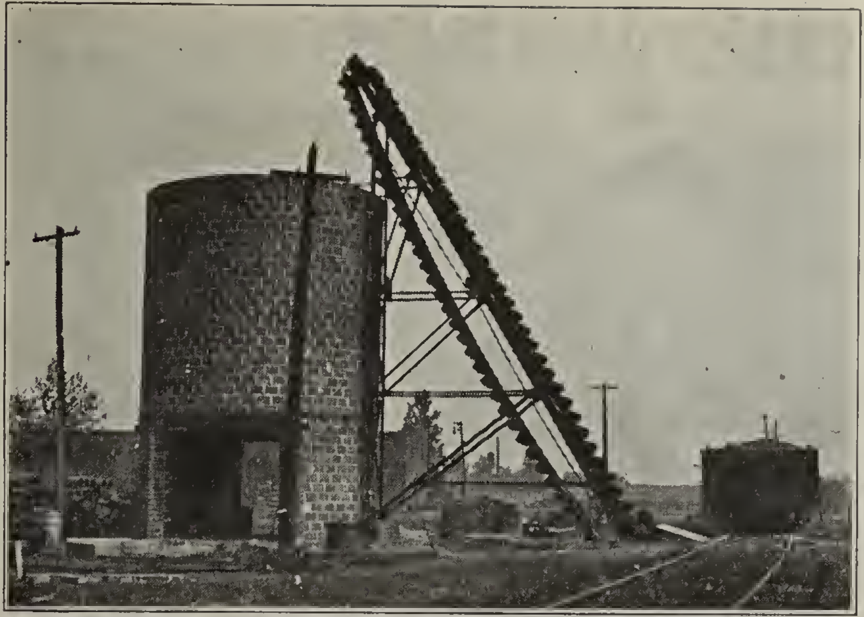
The Sheffield (Ia.) Brick & Tile Co., has installed two new machines for turning out drain tile. The machines are known as the "American 290's" manufactured by the Hadfield-Penfield Steel Co. The two plants of this company at Sheffield are not operating on account of the tremendously large stock piled in its yards.

Adds to Capital Stock

Amended articles have been filed by the Corbin Brick Co., of Corbin, Ky., increasing its capital stock from $30,000 to $50,000.

Operating at Half Capacity

Half time is the best that the Louisville Fire Brick Works is able to operate at either its Eastern Kentucky or Louisville plants, as steel and iron mills are not operating at much better than half capacity, refiners are not busy, and railroads are not buying much stock. Shipping has also been dull, and the volume of material bought for vessels has been small, as



55 Tons of Lump Coal Unloaded In 50 Minutes

That is what a Sunbury Automatic Car Unloader does in filling a coal bin for the Krick-Tyndall Co., Manufacturers of Tile and Blocks, Decatur, Ind.

Think what it means to unload a car of coal, this day of car shortages and labor scarcity, in approximately one hour. It's real ECONOMY as well as co-operation in solving the great railroad difficulties.

The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."
THE UNITED STATES ROOFING TILE CO.
5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

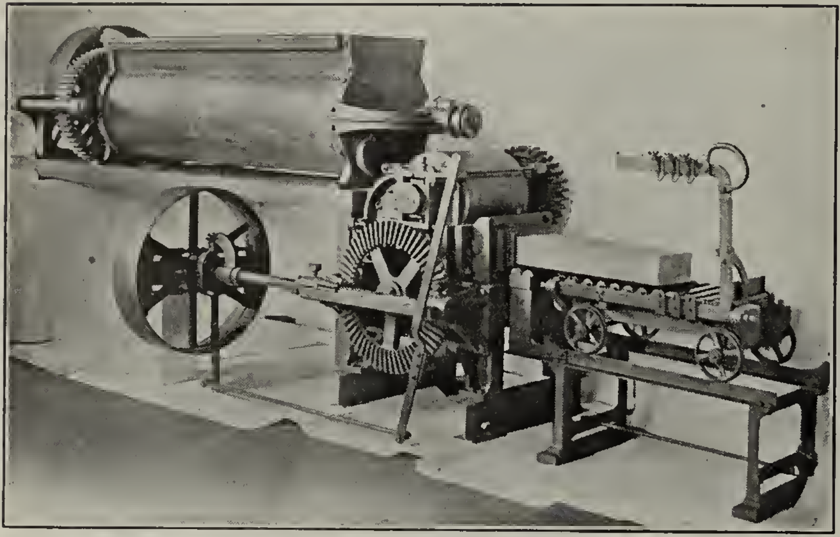
Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

Rollin Chemical Corp.
Equitable Building
120 Broadway, New York City

BRICK MUST HOLD UP ITS REPUTATION

THE MODERN WAY



A Unit for Surface Clays, Short Clays and Laminating Clays. In fact, will run any material.

Unit consists of Pugmill, Press and Cutter for Brick, Hollow-Block, Floor-tile and Roofing-tile. Cutter will cut up to 18 inches.

YOUR TROUBLES ARE OUR PROBLEMS

Write Us About Our Dryer

Continuous tunnel type without the use of expensive dryer cars, transfer cars and rails, better control over circulation temperature and moisture.

We make physical tests of your material.

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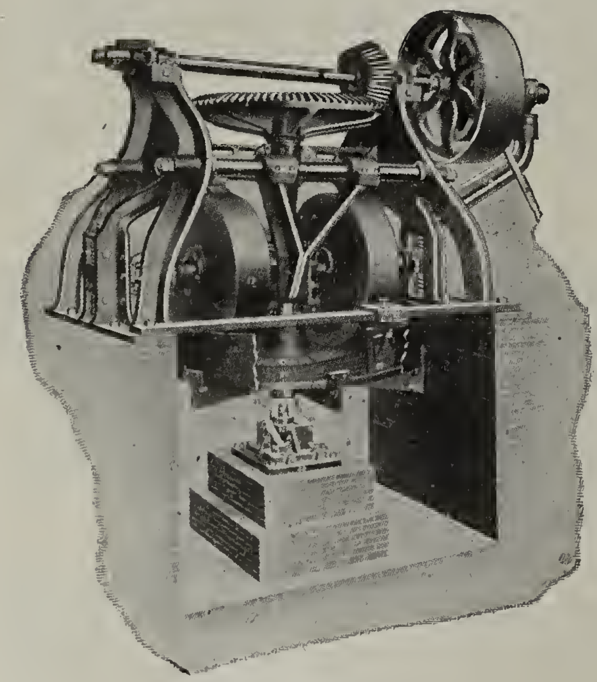


Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.
All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY
General Offices and Works: WELLSVILLE, O.
Western Sales and Engineering Offices, Monadnock Building
CHICAGO, ILLINOIS

there is very little shipbuilding as a result of the heavy building during the war period.

Louisville Brick Business Somewhat Better

There has been a remarkable improvement in demand for building supplies in Louisville, recently. The week ending March 26, was the best of the year to date, over a hundred permits being issued by the City Building Inspector's office, this number including sixteen residences, the balance being for repairs, additions, garages, and small buildings of one sort or another. So far demand has been largely for frame construction due to the fact that materials other than lumber are still fairly high. However, brick men report more inquiries, and better business, but principally in small lots.

Brick Not Likely to Go Lower

Andrew Hillenbrand, of the Progress Pressed Brick Co., Louisville, Ky., stated that business was a little slow due to the fact that most orders are in small lots of 2,000 to 5,000, altho he has one order for about 90,000 on the University of Kentucky at Lexington. Mr. Hillenbrand stated that prices had been again reduced, but could not go much lower until brick manufacturers work out stocks on hand made with high priced labor and fuel. Present quotations show common brick at $18 a thousand and face, $23, less five per cent. discount for cash in ten days. Common brick at peak prices sold up to $25 and $27 a thousand.

Invents Traveling Crane Kiln Firing Machine

A new era in brick making is predicted following the invention of a kiln firing apparatus by Milliard Cox, 2100 Confederate Place, Louisville, Ky., mechanical engineer for the Louisville & Nashville Railroad.

Mr. Cox's apparatus consists of a crane running on a monorail around the circular kilns. The crane lifts the coal from cars and pours it into the kilns through small openings in the top. Grates, set at an angle of forty-five degrees will give almost perfect combustion, according to the inventor. The draft of the kilns will be controlled by a damper.

The entire apparatus will be constructed above the ground and will not add any additional incumbrance to a brickyard, Mr. Cox said last night.

Baltimore Concern to Start Up

Encouraging news thruout the country is heard. Everywhere clay plants are beginning operation. According to a report the Baltimore (Md.) Brick Co. will resume operations at two of its plants in Baltimore very soon. Approximately 200 men will be given employment.

Re-elects Old Officers

The Massachusetts Brick Manufacturers' Association at its annual meeting held recently in Boston, re-elected the officers who have served for the past year. George A. Parry of the Parry Brick Co. of Boston, president; R. A. Bailey of Springfield, vice-president; and A. H. Atwood, secretary and treasurer.

Start Work of Rebuilding Burnt Plant

The officers and directors of the Presbey Stove Lining Co. of Taunton, Mass., at a meeting held almost before the ruins of their plant which was destroyed by fire, had ceased to burn, voted to start the work of cleaning up the ruins immediately and to have plans and specifications prepared for the construction of a new plant. The company has a number of orders on and and it was felt that an early start should be made toward ebuilding. The type of buildings to be erected were not definite- y decided upon at the first meeting but it was indicated that hey would be of the most modern construction and equipped vith up-to-date apparatus for the making of fire brick and tove linings.

Michigan to Have New Plant

The Briggs Co., Lansing, Mich., operating a face brick lant at Grand Ledge, Mich., with capacity of about 13,000,-00 brick per year, is planning the erection of a new common rick producing plant at Durand, Mich., where a tract of 00 acres of clay property has been secured. A portion of he new plant will also be devoted to the manufacture of ile products.

Demand Induces Company to Start Work

The plant of the Belt Line Brick Co., Minneapolis, Minn., s to resume operations early in April, it is stated. This plant as not been operating since the first of the year. The demand or building brick is beginning to be felt once more and there re indications that business will be plentiful during the coming eason.

New Brick Company to Begin Manufacturing

To furnish brick in any amounts within six weeks' time is he aim of Bowser & Dugan, a firm that is promoting the peedy erection of a brick plant at Miles City, Mont. Machinery as been purchased and a brick machine with a capacity of 0,000 brick per day will be installed. The first contract secured y the concern is the supplying of brick for a school, approxi- nately 600,000 to be delivered.

New State Highways to Be Constructed

Considerable road work is to go forward in New York dur- g the coming season, and it is the paving brick man's oppor- unity to be alert and secure a portion of the funds to be sed for this purpose. The State Senate has passed three ills appropriating $9,599,676 for road construction and main- nance, and the Highway Department has plans under way or some of the initial work.

New Brick Plant to Be Opened at Trenton

The Adamtex Brick Co., 171 Madison Avenue, New York, rganized about a year ago with capital of $1,000,000, and ow operating a plant in New Jersey, is planning for the stablishment of a branch producing yard in the Trenton istrict of the state. Details of the proposed plant are being rranged; it will be devoted to the manufacture of brick f particularly high-grade quality. W. L. Woottan is presi- ent; Newton A. K. Bugbee, Trenton, vice-president and reasurer; and Louis F. Ducker, secretary.

New York Brick Plants To Start Operations

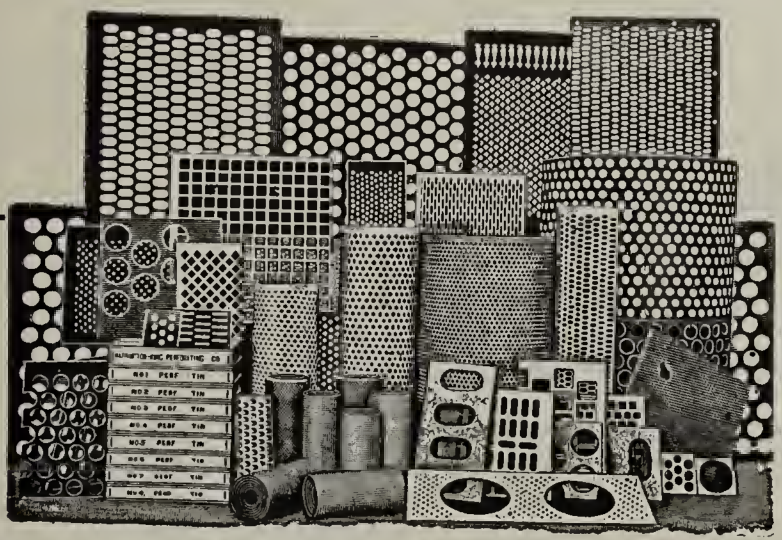
Now that the spring producing season is at hand, producers re becoming more optimistic in regard to the turn of affairs, nd a number of plants in the Hudson River district which nticipated deferring immediate manufacture will start up round the middle of April. The labor situation in the brick roducing sections gives evidence of marked betterment over onditions as prevailed a year ago; men are far more plenti- ul, far more willing to work, and in the majority of cases, illing to accept a reduced compensation. The aspects, in ntire, show encouraging status for New York brick manu- acturers and it is likely that the 1921 season will round out ith a substantial production, and allotments well absorbed.

Perforated Steel Screens
Of Every Description

For Screening Clay, Shale, Sand, Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity, Durability and Satisfaction

The Harrington & King Perforating Co.
635 N. Union Ave., Chicago, Ill.
NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

The Roessler & Hasslacher Chemical Company
709-17 Sixth Ave. New York
Chicago, Ill. Cleveland, O. St. Louis, Mo.
Kansas City, Mo. San Francisco, Calif. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
Cincinnati, O.

Why are these Beans-burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife, Mary Anne, could never cook beans quite to suit his taste. As a matter of fact they were usually burned on top. Mary Anne's stove suffered from about the same ailment as a great many Heat Treating Furnaces do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to heat radiation from many uninsulated surfaces.

Insulation with SIL-O-CEL of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Heat Treater's furnace would guarantee an even temperature in the oven. For the Heat Treater, this would not alone eliminate one of the most risky elements, but would also save fuel by preventing the escape of 60 to 70 per cent. of the unused heat which ordinarily radiates from the outer surfaces.

CELITE PRODUCTS COMPANY

NEW YORK, 11 BROADWAY
PHILADELPHIA, LIBERTY BLDG
PITTSBURGH, OLIVER BLDG
CLEVELAND, GUARDIAN BLDG
DETROIT, BOOK BUILDING
CHICAGO, MONADNOCK BLDG
ST. LOUIS, 1532 OLIVE STREET
LOS ANGELES, VAN NUYS BLDG
SAN FRANCISCO, MONADNOCK BLDG

If you are interested in getting more data on how insulation with SIL-O-CEL will increase the efficiency of your heat treating equipment we will be glad to send you a copy of our Bulletin V-5A.

SIL-O-CEL
PREVENTS HEAT PENETRATION
TRADE MARK REGISTERED U.S. PATENT OFFICE

HY-GRADE MANGANESE CO.
WOODSTOCK, VA.

Miners and Grinders

Especially Prepared for Brick Making

Sales Office: CHARLESTON, W. VA.

Plan Building Brick Plant in Queensborough

The borough of Queens in Brooklyn, N. Y., is seriously considering the advisability of erecting a brick manufacturing plant. Altho very little clay in the borough is suitable for the manufacture of this building material it is argued that clay could be shipped into Queensborough as easily as sand into Manhattan. Several of the men most interested in the project are making inquiries into the cost of shipping clay into the borough and if it is found that brick can be made cheaper than they can now be purchased it is entirely possible that Queens may within a year or so be manufacturing brick.

Terra Cotta Company Reports Much Activity

The New Jersey Terra Cotta Co., New York City, has started the season by closing up contracts for the terra cotta for several theaters and school buildings. Among others this company is working on the terra cotta for the large theater being built at Walnut St. and Hatters Alley, Cincinnati, Ohio, for the Keith interests. The company is also now furnishing the terra cotta for Mr. S. Z. Poli's two large theaters at Bridgeport and Waterbury.

The company is looking forward to an active season. From the amount of bids called for it looks as tho the building trade intends getting busy this spring. Estimates in all lines are called for; not alone in New York City but from different parts of the country.

At the last annual meeting held by the company on January 26, E. V. Eskesen, for many years general manager of the company, was elected its president, taking the place of Karl Mathiasen, deceased. Karl Mathiasen, Jr., was elected secretary.

Another Brick Company

A company known as the Ideal Brick Co., of Slocumbe, N. C., has been organized with an authorized capital of $100,000, of which $19,500 has been subscribed by H. A. Matthews, B. L. Langdon and T. M. Johnson.

Begins Manufacture of Brick

Operations have begun at the plant of the McCraw Brick Co., Gaffney, N. C., a report states. The concern has a capacity of 100,000 brick per day and building brick and paving block are being manufactured. The company is planning the erection of ten kilns.

Secures Order for Interior Face Brick

The Ironclay Brick Co., of Columbus, Ohio, secured a contract to furnish 80,000 inside facing brick for the erection of a school building in Springfield, Ohio.

Optimistic for Resumption of Building

John Baker, sales manager of the Hocking Valley Products Co. brick division, Columbus, Ohio, attended the Detroit Building Show recently and was very enthusiastic over the outcome. He believes that the building business will come along nicely a little later and is making preparations accordingly.

Plant Starts Operating

The Rose Clay Co., Urichsville, Ohio, has resumed operations. The new clay plant of Finser Brothers & Co. at Sugar Creek is making fire proofing in a new building and plant with a capacity of 25,000 brick in ten hours. Thirty men are employed at the plant and a like number at the mine. The force will be increased, it is said.

To Start Up Soon

The plant of the Louisville (Ohio) Brick & Tile Co. has een sold to Cleveland capitalists and will soon resume perations, it was announced recently. The plant is to be emodeled and later plans are to be made for the use of lectricity exclusively for power. This will mean an increase n the plant's capacity.

Four Companies Join Interests

An interesting report received recently contains the news of he merging of the Canton Brick & Fire Proofing Co., Midvale Ohio) Clay Products Co., plans for which have recently been eceived, and two other plants whose names are not known. The amount of capital involved in this deal is said to be bout $1,500,000. Men prominent in the clay industry are beind this movement. These men include W. F. Demuth, eorge Arnold of New Philadelphia, Ohio; H. E. Cole, Midvale, Ohio; Thomas Kent, Dover, Ohio, and Alex Robinson, Jhrichsville, Ohio. Two more directors are to be named. According to W. F. Demuth work on the erection of the plant or the Midvale Clay Products Co. will be started soon.

Drain Tile Men Plan Advertising Campaign

A meeting of the executive officers and the traffic committee f the Ohio Drain Tile Association was held at Findlay, Ohio, March 25. It is proposed to start a publicity campaign to ell the public of the benefits to be derived from the use of drain tile. This campaign will be modeled after that carried on by the American Face Brick Manufacturers Association and the Common Brick Manufacturers' Association of America. Complete plans for the advertising campaign have not yet een formulated altho some literature has already been sent out. C. H. Hilty of Dayton, Ohio, is president and J. C. Polling of Ada, Ohio, is secretary manager. The traffic committee consists of Leo Childs of Findlay, W. H. Lewis of North Baltimore and W. P. West of Columbus.

Starts Operating New Plant

The Franklin Brick & Tile Co., which recently completed plant No. 2 at Taylor Station, just east of Columbus, Ohio, as placed this new plant in operation manufacturing drain tile nd hollow building brick. All of the machinery has been installed and the capacity of the plant is 100 tons daily. The ew kilns are working in good shape and quantity production s expected in the near future. Plant No. 1 of the same concern which was closed down for several weeks to make necessary repairs is now making rough surface face brick, common rick and chemical brick. The capacity of this plant is approximately 2,500,000 brick monthly. This company has secured a contract to furnish the Federal Chemical Co. with 50,000 chemical brick for the building of a large addition to s plant on Windsor Avenue.

Brick Plant to Begin Work

After some years of idleness the brick plant at Hamburg, Pa., is to be put in operation. The plant was formerly conducted by Tobias & Sheridan but has now been sold to A. allandt & Son, from St. Louis, Mo., it is said. Work is xpected to begin at the plant in early Spring.

New Clay Products Concern

A new company has been incorporated to manufacture brick, le and kindred products in Ephrata, Pa. It will be called e United Shale Brick Co., and has a capital of $100,000. The company is composed of Milton B. Shirk, Stevens, Pa.; eorge W. Kinzer, Ephrata and Maurice Roppold, Denver, a.

PREMIUM
COAL

Are You Buying Tons of Weight or Tons of Heat---Mr. Clay Products Manufacturer?

It is estimated that 10 tons of coal with high B. T. U.'s is equivalent to 16⅔ tons of coal with low heat units.

In the state of Illinois, there is a variation of approximately 39% in B. T. U. values between the poorest and best grades of coal mined. PREMIUM COAL IS MINED IN THE DISTRICT SHIPPING THE BEST COAL MINED IN THE STATE.

PREMIUM COAL with its—

HIGH VOLATILE
HIGH FIXED CARBON
LOW SULPHUR CONTENT
LOW ASH
B. T. U. VALUE

permits the obtaining of VERY HIGH TEMPERATURES when burned in kilns equipped to obtain Maximum Burns.

To buy coal with high heat units means enormous savings in this day of high mining costs and high freight rates.

Tell us your requirements.

Big Creek Coals, Inc.
Peoples Gas Bldg.
CHICAGO
MINNEAPOLIS GALESBURG

"BIG CREEK"
for years has stood
for
SERVICE
and
QUALITY

PEABODY *for* SERVICE

When You Buy Coal

Consider these facts

SINCE 1883 we have been supplying consumers of carload coal.

For 37 years the name PEABODY has stood for Good Coal and Efficient Service.

Today PEABODY is operating 36 mines, in 11 districts, on 19 railroads with annual capacity of 18,000,000 tons.

PEABODY SERVICE

is not a matter of chance. It is the result of immense resources intelligently handled by an organization thoroughly inoculated with the spirit of willing service.

Whatever your requirements you will find PEABODY service ample and responsive.

PEABODY COAL COMPANY
CHICAGO

St. Louis
Omaha
Peoria
Cincinnati
Kansas City
Minneapolis
Deadwood, S. D.
Spokana, Wash.
Sheridan, Wyo.

PEABODY *for* SERVICE

Brick Plant to Commence Operations

The American Clay Products Co., New Hope, Pa., w soon commence operations at its new local plant, which h been in course of construction for some time past. The i tial production will be devoted to common brick and it understood that considerable material manufactured und the early runs will be utilized for the construction of ne buildings at the yard. It is expected to give employme to about fifty operatives for the present, and this worki force will be considerably enlarged at a later date.

Glen-Gery Begins Operations

More cause for optimism among brick manufacturers c be found in the recent announcement of the Glen-Gery Sha Brick Co., that its plant at Wyomissing, Pa., has resum operations recently. The plant has been idle for six wee during which time the fires in the continuous kiln have bee kept burning. This plant has a capacity of from 85,000 90,000 brick per day. According to Frank S. Gery large orde are coming in and prospects are bright for considerable bus ness. He says that the plant at Shoemakersville, Pa., wi shortly be operating and the Reading (Pa.) shale plant, als operated by the Glen-Gery Shale Brick Co., will be producin early in April.

Philadelphia Freight Rates Raised

More than a score of traffic representatives of the larges industries in Philadelphia formulated a protest against th proposed increased freight rates to Memphis, Nashville an New Orleans, and it was decided to send a delegation to th hearing of the Interstate Commerce Commission in Memphi Tenn., on April 5.

The transportation commissioner of the Philadelphia Cham ber of Commerce, George P. Wilson, called the meeting an acted as chairman. Reports on the effect of the increase o their business were made by transportation men and anothe meeting was called for March 28, when plans will be com pleted for the meeting in Memphis.

Labor Helping to Reduce Building Costs

The Building Trade Council of Philadelphia, Pa., has aske the employers to meet with them for the purpose of co operation for the stabilization and standardization of the building industry. The trades have pledged their strongest effort to help the contractor lower his unit costs, have agreed t make every effort to increase their own efficiency and maximu production.

The aim of the building trades is to lower the peak cost of building and bring them down to a fair level. It is hope that building costs will be reduced to within 150 per cent. o the 1914 level. Or in other words a building which cos $25,000 last year and $10,000 in 1914 should cost this year fro $15,000 to $16,000.

Selling Brick 20 Per Cent. Below Old Prices

The Industrial Relations Committee of the Chamber of Commerce, Philadelphia, Pa., received two concrete instance of the result of the recent construction conference held in the city.

Robert D. Hamilton, representing the brick manufacturers of Philadelphia, sent a communication stating that as a result of the information produced at that conference the brick manufacturers had made a twenty per cent cut below thei prices of December 1, 1920. He stated that he believed it necessary to make a sacrifice at this time in order to start the industry and therefore the cut was made altho it prevented the brick manufacturers from making any profit.

The Master Carpenter & Builders Co., an organization of seventy representative building contractors, notified the committee that it plans to set a rate of ninety cents an hour for carpenters as a scale on May 1 this year, according to the recommendation of the committee of twenty-three presented at the conference; $1.12½ an hour is the demand made by the Brotherhood of Carpenters.

Bricklayers Reduce Own Wages

Bricklayers in Wichita Falls, Texas, recently agreed voluntarily to reduce their wages two dollars to assist prospective builders to proceed with contemplated work.

Use of Brick Increasing

The popularity of brick in building is increasing in the South, according to a clipping from the Houston (Tex.) "Chronicle." Instead of as formerly using brick only as a solid masonry wall, brick veneer is now being used more extensively. Tho the stocks of Texas companies are far below normal, Houston, Tex., is getting prompt delivery on brick orders.

Making Plant Improvements

The Tazewell Brick Co., Pearisburg, Va., is planning for the extensions and improvements in its brick plant at Tip Top, Va. The company was recently incorporated with a capital of $75,000. C. L. King is president, and George Shafer manager.

Has Outgrown Old Plant

The Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash., has leased property on Monroe Street, totaling about 65,600 sq. ft., as a site for the erection of a new plant. Plans are under way for the initial buildings, and estimated to cost about $75,000. The first structure to be erected will be for office service.

Announcing Marriage of George E. Burnham

George E. Burnham, president of the Burnham Bros. Brick Co., Milwaukee, Wis., residing at 264 Prospect Avenue, was married at Chicago, last month, to Miss Augusta O. Gilbert, of Wauwatosa, Wis.

New Wyoming Clay and Coal Company

Incorporation of the Rock River Clay & Coal Co. has been announced. The amount of capital stock is $50,000, and G. W. Godfrey, E. K. McMann, W. E. Dinneen, George Hackman, Dr. Ekdall, E. B. Jarvis, and D. G. Grunden are the directors. The company's main office will be at Cheyenne, Wyo.

Enlarging Brick Plant

The Delson (Quebec) Brick Co., Montreal, Quebec, has plans under way for extensions and improvements in its brick manufacturing plant at Delson.

Visits Toronto and Ottawa

A recent visitor to Toronto was J. W. Ball, manager of Clayburn (B. C.), Ltd. After a stay in Toronto and Ottawa he left for St. Louis and points south.

Loses Superintendent

A. McArthur has resigned as superintendent of the Shale Brick Co., Ltd., Cooksville, Ont. A. U. Cote, general manager, will move from Toronto to Cooksville, supervising both sales and manufacturing.

TRADE MARK REGISTERED
KOPPEL
U. S. PATENT OFFICE

We offer complete haulage equipment for brick plants including Dryer Cars, Dump Cars, Electric Battery Trucks, Track, Switches, etc.

Complete Bulletins on request.

Koppel Industrial Car & Equipment Co.

KOPPEL, PENNA.

Sales Offices:

30 Church St.,
New York City

Peoples Gas Bldg.,
Chicago

Farmers Bank Bldg.,
Pittsburgh

1420 Chestnut St.,
Philadelphia

Edw. R. Bacon Co.,
51 Minna St.,
San Francisco

Book Building,
Detroit

The Electromobile, our Electric Battery Truck, has proven exceptionally adaptable for Brick Plant use.

WE believe that these times more than ever demand of all of us THRIFT, INDUSTRY and HONEST SERVICE. We feel that the bottom has been reached and we are in for a long, hard pull up the hill, with the constant satisfaction of knowing that it IS an upward pull and that our feet are on solid ground.

We should like to work with you with these ideas in mind and we are sure that we can relieve you of your fuel worries and that our service and the quality of our coals will prove the honesty of this message to you. If we have never served you we should like to get acquainted. If we have worked with you in the past we should appreciate doing so now. If we are at this time taking care of your fuel requirements we trust we are doing so to your entire satisfaction.

In any event we should be pleased to have a word from you either by Telephone, Telegraph or Letter.

Walter Bledsoe & Company

Home Office:
Terre Haute Trust Bldg.
TERRE HAUTE, IND.

Chicago Office:
Old Colony Building

Indianapolis Office:
Traction Terminal Bldg.

Cincinnati Office:
Union Central Building

FOUR MINES PRODUCING
INDIANA FOURTH VEIN COAL

Hollow Tile Shown Big Future in Farm Field

(*Continued from Page* 561)

Probably one of the most pressing needs for research, the secretary said, was that devoted to finding new and more uses for hollow tile.

It is planned to give short courses of instruction in the use of hollow tile and every manufacturer is urged to conduct such short courses for the purpose of instructing in the manner of laying their product in the wall. Another point brought out was the importance of educating the contractor in the use of hollow tile and this the association proposes to do.

Tho business may be slack just now, there will come a time when things will once more become normal. When this time comes the propaganda work and other efforts of the Hollow Building Tile Association will make itself felt in a tremendously increased usage of this type of building material.

OFFICERS FOR ENSUING YEAR

The popularity of H. M. Keasbey as president of the Hollow Building Tile Association was manifested in his reelection to that office for the ensuing year. Wm. Hutton, Jr., of the Troy (N. Y.) Fireproofing Co., was chosen vice-president, and E. R. Sturtevant will continue to guide the destinies of the association in the capacity of secretary.

The following men constitute the board of directors of the association:

J. J. Amos, Humboldt Brick Mfg. Co., Humboldt, Kans.; F. F. Anness, Anness & Potter Fire Clay Co., Woodbridge, N. J.; H. C. Downer, Malvern (Ohio) Fire Clay Co.; G. O. French, Consolidated Clay Products Co., Canton, Ohio; G. H. Galvin, Rockford (Ia.) Brick & Tile Co.; Bert J. Graham, Denison Interlocking Tile Corporation, Cleveland, Ohio; Frank R. Hale, Vigo-American Clay Co., Terre Haute, Ind.; H. M. Strauss, Roper-Strauss-Ferst Co., Inc., Birmingham, Ala.; Wm. Hutton, Jr., Troy (N. Y.) Fire Proofing Co.; H. M. Keasbey, National Fire Proofing Co., New York City; T. J. Neiswanger, Standard Clay Products Co., Oskaloosa, Ia.; J. H. Payne, Fraser Brick Co., Dallas, Tex.; R. F. Williams, Athens (Tex.) Brick Co.; V. L. Yepsen, National Fire Proofing Co., Pittsburgh, Pa.

The convention was in every way a success and it was generally felt that with the splendid efforts of the secretary and his staff, and with the continued support and cooperation of every individual member, the Hollow Building Tile Association will grow to be a powerful organization, doing the industry inestimable good.

A list of those attending the convention follows:

H. R. Straight, Adel (Ia.) Clay Products Co.
W. A. Snow, American Clay Products Co., 175 Fifth Avenue, New York City.
F. F. Anness, Anness & Potter Fire Clay Co., Woodbridge, N. J.
H. T. Banfield, Banfield Clay Co., Irondale, Ohio.
A. P. McDonald, P. Bannon Pipe Co., Louisville, Ky.
J. Marnane, Barron Brick Co., Tribune Bldg., Chicago, Ill.
W. A. Barron, Barron Brick Co., Tribune Bldg., Chicago, Ill.
B. M. Werner, Beatrice (Neb.) Brick Works.
Mr. Quinn, Chicago Fire Brick Co., 133 West Washington St., Chicago, Ill.
Mr. Anderson, Chicago Fire Brick Co., 133 West Washington St., Chicago, Ill.
W. A. Gilbert, Chicago Fire Brick Co., 133 West Washington St., Chicago, Ill.
F. H. Rattke, Chicago Fire Brick Co., 133 West Washington St., Chicago, Ill.
C. C. Baird, Camp Bros. Co., Mogadore, Ohio.
M. J. P. Dunlap, Chemical Clay Products Co., 1014 Candler Bldg., Atlanta, Ga.
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W. J. Burke, Clay Products Co., Brazil, Indiana.
F. L. Steinhoff, **Brick and Clay Record**, Chicago, Ill.
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C. M. Helm, Clay Products Co., Brazil, Indiana.
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George Dee, Wm. E. Dee Clay Mfg. Co., Stock Exchange Bldg., Chicago, Ill.
W. W. Lampert, Wm. E. Dee Clay Mfg. Co., Stock Exchange Bldg., Chicago, Ill.
Bert Graham, Denison Interlocking Tile Corporation, Guardian Bldg., Cleveland, Ohio.
J. H. Payne, Fraser Brick Co., Dallas, Texas.
Claude Roper, Gamble & Stockton Co., Jacksonville, Fla.

C. W. Dickson, Gamble & Stockton Co., Jacksonville, Fla.
Harley M. Ward, Haeger Brick Tile Co., Aurora, Ill.
D. C. Haeger, Haeger Brick & Tile Co., Aurora, Ill.
J. J. Amos, Humboldt (Kan.) Brick Mfg. Co.
J. M. Powell, Indiana Drain Tile Co., Brooklyn, Ind.
W. A. Rohn, Indiana Drain Tile Co., Brooklyn Ind.
David McLaughlin, Iowa Clay Products Co., Washington, Iowa.
S. H. White, Iowa Clay Products Co., Washington, Iowa.
W. S. Elton, Iowa Clay Products Co., Washington, Iowa.
H. E. Taylor, Kankakee (Ill.) Tile & Brick Co.
H. C. Ross, Malvern (Ohio) Fire Clay Co.
F. D. L. Squires, Building Supply News, Chicago, Ill.
H. C. Downer, Malvern (Ohio) Fire Clay Co.
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Joseph L. Buckley, Proctor & Schwartz, Inc., Philadelphia, Pa.
F. W. Butterworth, Western Brick Co., Danville, Ill.
F. R. Carter, Peoria (Ill.) Brick & Tile Co.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

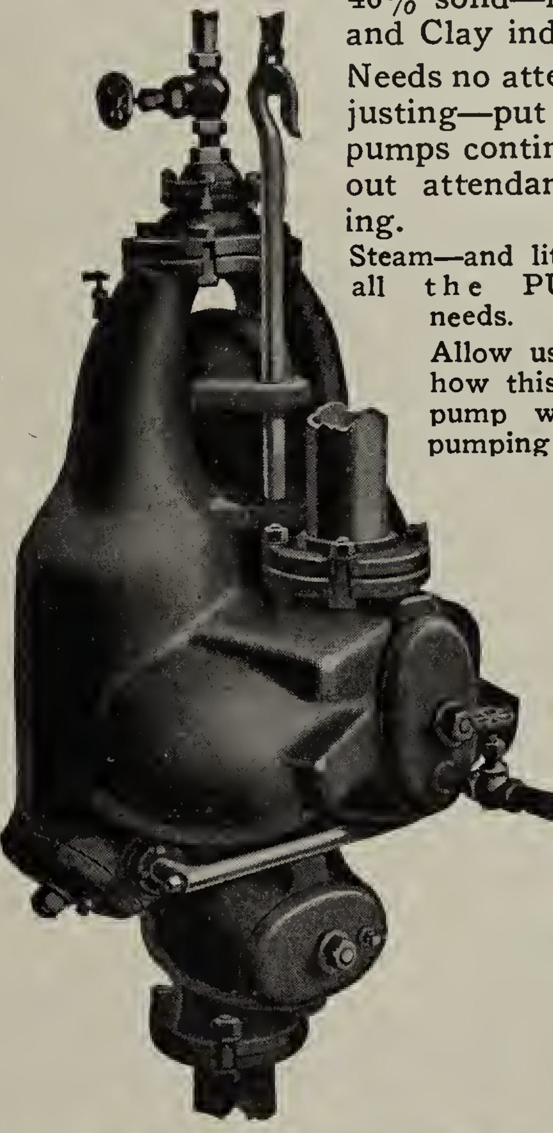
"Ricketson Reasoning"

An attractive, 2-color circular distributed by Ricketson Mineral Paint Works, Milwaukee, Wis., carries the above title. The company states "Superlative claims for superiority may sound big, but they're not as convincing as reasons. Every time we state that Ricketson's 'Red Brick' Brand Mortar Colors are best we add a real reason why." Ricketson colors are handled by many reliable dealers, but if there is not one in your neighborhood you can write direct to the home office for more information about the advantages of these colors.

* * *

Oil Burner Catalog

The Schurs Oil Burner Co., 5332 Santa Fe avenue, Los Angeles, Calif., announces that they are now getting out their new No. 9 Catalog. There are now more than 60,000 of the popular line of Schurs Oil Burners in use, and at the present time a large number of companies are contemplat-



Alone

There is no other pump in the class of the PULSOMETER—NEEDS NO LUBRICATION, because sliding parts and friction-producing mechanisms are eliminated.

Needs no foundation—it's efficient hung to anything, anywhere.

Handles any fluid up to 40% solid—fine for Brick and Clay industry.

Needs no attention, no adjusting—put to work, it pumps continuously without attendant or watching.

Steam—and little of that—is all the PULSOMETER needs.

Allow us to show you how this sturdy steam pump will "fit" your pumping requirements.

PULSOMETER STEAM PUMP

PULSOMETER STEAM PUMP CO.

Executive Offices: 224 West 42d Street, New York, N. Y.

Agencies in the Following Cities: 2044-M

Henry H. Meyer Company, 110 S. Howard St........BALTIMORE
Kelly-Derby Co., Inc., Peoples Gas Bldg...........CHICAGO
Queen City Supply Company, S. W. Cor. Elm & Pearl Sts., ... CINCINNATI
Beckwith Machinery Co., 1500-02 Lakeside Ave.....CLEVELAND
The K. B. Noble Co., 249 Pearl St....HARTFORD, CONN.
J. L. Welborn....HATTIESBURG, MISS.
H. A. Paine, 119 Main St........HOUSTON, TEX.
Woodward, Wight & Co., Ltd., ...NEW ORLEANS, LA.
Turner Supply Co.......MOBILE, ALA.
Miller Supply Co., ...HUNTINGTON, W. VA.
Harron, Rickard & McCone, 225 S. San Pedro St., ... LOS ANGELES, CALIF.
Edelen & Co., 235 Commercial Trust Bldg. .... PHILADELPHIA
Beckwith Machinery Co., 108 Parkway N. S..PITTSBURGH, PA.
F. H. Hopkins Company....MONTREAL
Hunter Machinery Co., 208 Wells St............MILWAUKEE
Wm. H. Ziegler Co., 423 S. Fifth St.......MINNEAPOLIS
Berow Machinery Co., 220 West 42nd St..NEW YORK CITY
Harron, Rickard & McCone, 139 Townsend St...SAN FRANCISCO
J. A. Manion, Henry Bldg.................SEATTLE
A. R. Williams Machinery Co., ...TORONTO
W. L. Sullivan..........TULSA, OKLA.
Kelly Powell Limited..WINNIPEG, CAN.

The Gateway to Better Things

BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men—in the only way that he can—in books. If you would be master of your work you must read and know what others know.

Bricks and Tiles	$1.50
Brick Drying (English edition)	1.00
Bricklaying in Modern Practice	1.20
Bricklaying, Rudiments of Practical	.75
Bricklaying System	4.00
Brick Work (Walker)	.85
Brickwork and Masonry	3.00
Building Construction and Superintendence, Part 1, Masons' Work	6.00
Bungalows, Camps and Mountain Houses	2.00
Ceramic Industries (A Treatise on) E. Bourry	6.00
Clay Plant Construction and Operation	4.00
Clays: Their Occurrence, Properties and Uses	5.00
Clayworkers' Handbook	6.50
Clay Working Problems	1.50
Directory of Dealers	.50
Engines and Boilers	1.50
Engineering for Land Drainage	2.50
Estimating Frame and Brick Houses	1.50
Finding and Stopping Waste in Modern Boiler Rooms, Vol. 2	1.00
Garages and Motor Boat Houses	2.00
Glazer's Book	1.25
How to Build Up Furnace Efficiency	1.50
Land Drainage	2.00
Manufacture of Roofing Tile, (English Edition)	1.25
Manufacture of Roofing Tile (Worcester)	.75
Modern Brickmaking	7.00
Pottery	1.25
Powdered Coal as a Fuel	4.50
Practical Farm Drainage	1.75
Producer Gas and Gas Producers	4.00
Refractories and Furnaces	5.00
Rock Excavation, Handbook of	5.00
Scientific Industrial Efficiency	2.00
Scumming and Efflorescence	.50
Silo (The Hollow Tile) 100 copies	5.00
Steam Power	2.50
Tile Your Farm, 100 copies	5.00

Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent. import duty.

Address, Book Department,

Brick and Clay Record
610 Federal Street, Chicago, Ill.

ing changing over to the use of oil as fuel. The catalog will be mailed to anyone interested.

* * *

Union Fuel in New Home

The general offices of the Union Fuel Company were moved on April 1st from the Lytton Building to the new Union Fuel Building, 123 W. Madison street, Chicago. Telephone Randolph 1020.

The sales department of the company has been reorganized and A. E. Lee, formerly general freight agent of the Chicago & Alton Railroad, and vice president of the Reliable Coal & Mining Company, becomes general sales manager with office in the Union Fuel Building, Chicago.

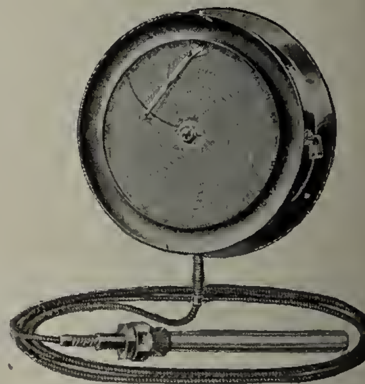
George W. Hatch, heretofore sales manager at Springfield, has been given the title of general sales manager at Springfield.

For years the Union Fuel Company have done some business with clay plants, but this year recognizing more fully the fact that this industry is one of the very largest users of coal, they are going systematically about it to interest more clay products concerns in their coal and (what is equally important) the ability of the Union Fuel Company to give them satisfactory delivery service.

* * *

The New Brown Recording Thermometer

Sixty years' experience in instrument making stands back of this new Brown Recording Thermometer. It is especially adaptable for measuring dryer temperatures as it makes a clear, distinct record and assures maximum output.



It is different from any other thermometer manufactured, in that it incorporates 15 of the latest constructional advantages such as: *Pen Arm Adjustable*—The pen arm is completely adjustable with setscrews for "set" and "tension". *Calibrating Means*—The helix is adjustable for calibrating. *Moisture-Proof Case*—Every instrument is supplied with a moisture-proof case as standard equipment and at no additional cost. *Automatic Pen Release*—Lifts pen automatically when door is opened. *Patented Chart Clips*—Automatically locks the chart when the door is closed. *Seth Thomas Clock Eight Day Movement*—Attached to front plate, so that clock must at all times be in alignment with chart, and can be renewed, if necessary for cleaning in two minutes.

Many charts for ranges from minus 40-degrees F., to plus 1,000-degrees F., are carried as standard equipment.

And you will notice from the illustration, the design of this new Thermometer—the serviceable black enameled case and ring—the open graduations on the chart—the inverted pen arm—the heavy bronze reinforced tubing—the robust bulb, and heavy threaded union connection.

Every detail in the design of this new Thermometer has been perfected after years of experience, and a close study of practical conditions. It spells "quality" in every detail, and no expense has been spared in manufacture.

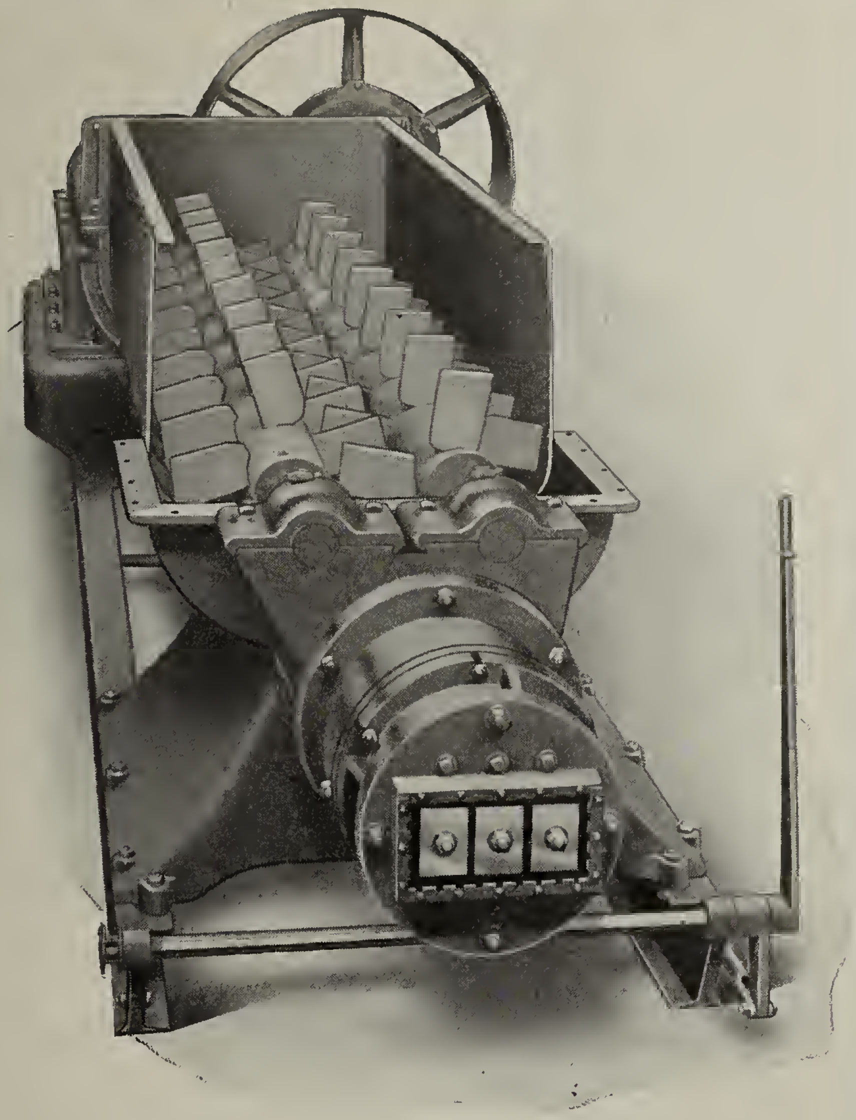
For further information regarding this new Thermometer, address The Brown Instrument Company, Wayne Junction, Philadelphia, Pa.

American No. 404 Combined Machine

This American No. 404 Combined Auger Machine and Pug Mill is a real leader in its class.

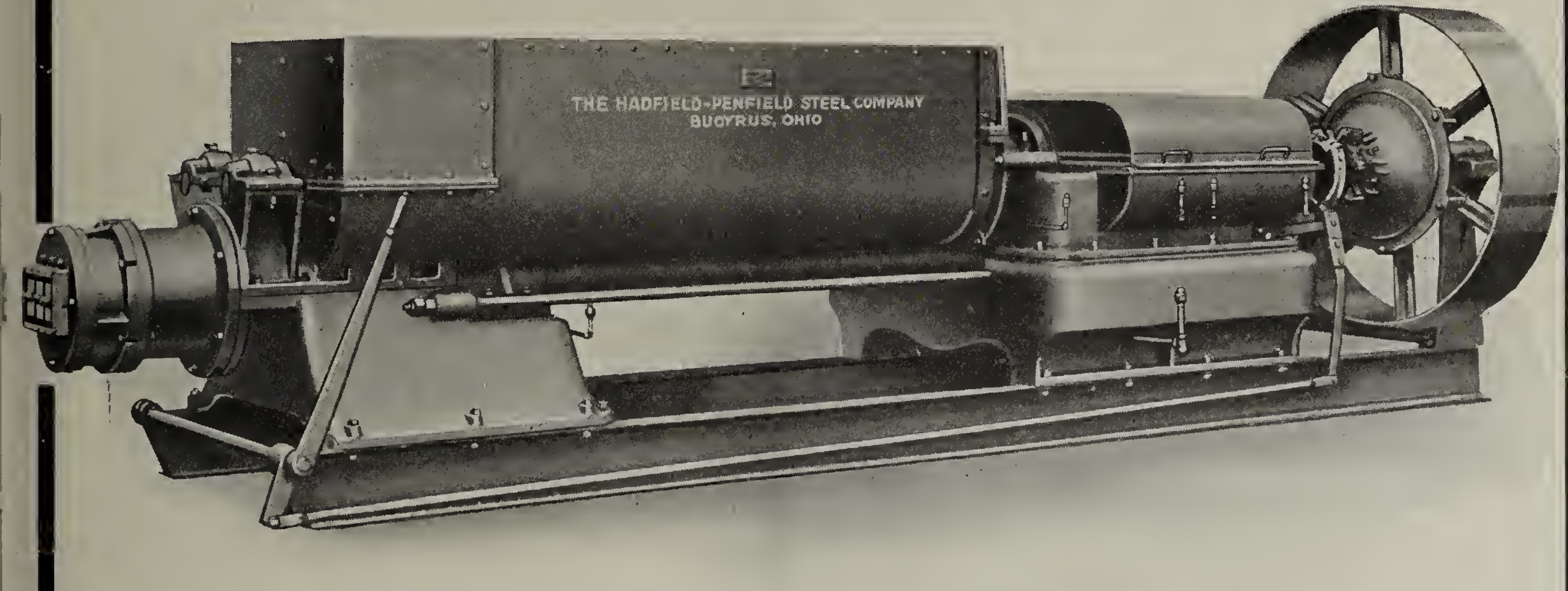
It is our newest machine of the combined type and has embodied in its design and construction those principals and practices which insure a high class machine, high class product, simplicity, excellence and durability.

This No. 404 Combined machine has so many points of excellence that we have issued a special bulletin on its construction features. This bulletin is interesting to any user of clay working machinery and will be sent on request. It is bulletin No. 404.



American No. 404 Combined Machine

The trend of the times is toward lowering costs of production and we have many machines and appliances for that purpose. Ask for printed matter on anything you may need. Don't forget the Haigh Kiln saves a half of your fuel and kiln labor and insures a better product.

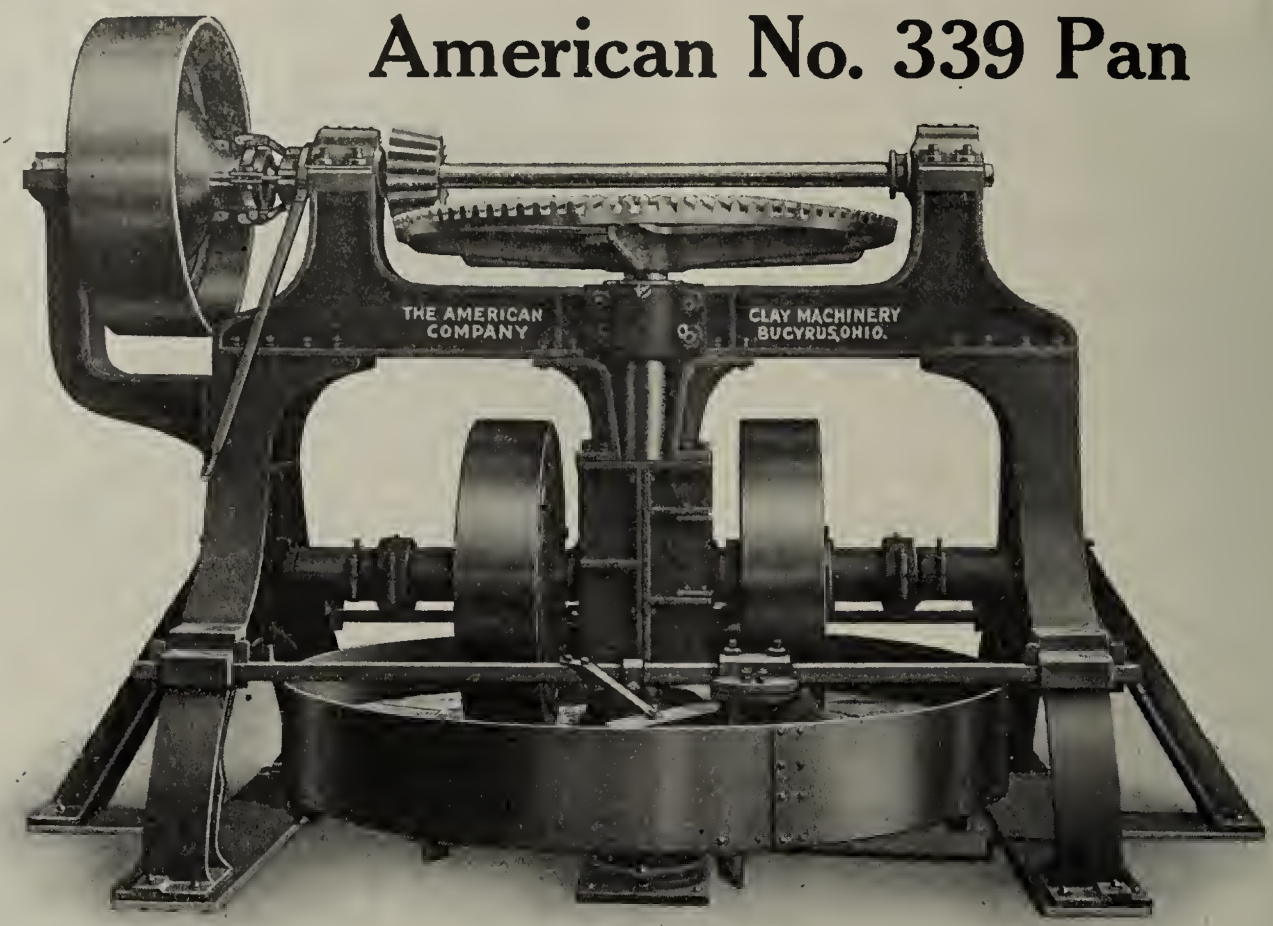


American No. 404 Combined Auger Machine and Pug Mill

The Hadfield-Penfield Steel Co., Bucyrus, Ohio

FORMERLY THE AMERICAN CLAY MACHINERY CO.

American No. 339 Pan



American No. 339 Pan

This is not the largest American Pan built but it has great capacity, strength and simplicity.

You are sure to get satisfaction from this pan.

We will be pleased to send you testimonials on request, together with complete description and specifications.

The Hadfield-Penfield Steel Co., Bucyrus, Ohio

Anybody can run or repair the simple

AMERICAN GAS-O-MOTIVE

When we put this husky construction tool on the market we took into account the rough handling of unskilled labor and the necessity of keeping the equipment out of the repair shop and constantly on the job. The simplicity of the American Gas-O-Motive as a whole, its powerful and flexible and speedy Hercules Motor, oil-immersed drive chains and positive 4-wheel sander, are only a few of the reasons why this outfit is a fine investment for the Contractor who wants the most work for the least money. The American Gas-O-Motive is built in several sizes. It is the dividend maker of the Clay Worker.

Specifications and prices on request

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BUCYRUS, OHIO
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BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

WHY NOT PROMOTE USE OF ROOFING TILE?

TWO ADVERTISEMENTS—one a full-page advertisement, appearing recently in the Sunday edition of the Los Angeles "Times," and having as its object the promotion of roofing tile by the Los Angeles Pressed Brick Co., and the other a half-page copy appearing in the April number of the "Ladies' Home Journal" advocating the more extensive use of stoneware articles, placed thru the cooperative agreement of twelve leading stoneware manufacturers, suggested this editorial.

The first advertisement points out an opportunity; the second, a means of meeting this opportunity. Clay roofing tile has never even approached the popularity that it enjoys in other countries. In Europe it is used extensively. In Australia,—in the city of Melbourne, which has a population of 750,000, at least ninety per cent. of the dwelling houses are roofed with clay tile. In America, however, the average person knows little, if anything at all, about it.

No campaign of education that has permanency for its slogan, and fire safety for its object, can leave roofing tile out of its calculations, since it is by way of the roof that otherwise fire safe buildings are ignited. No argument that is used for the purpose of increasing the sale of brick, be it from the standpoint of color, texture or form,—the quality of aging gracefully, the quality of utility of coolness in summer and warmth in winter—can be made that cannot apply equally as well to burned clay roofing tile.

Unfortunately, in the past, the industry was handicapped by the fact that porous tile have been introduced and used with poor results, and the sins of these porous tile have been visited upon the heads of many thousands of law-abiding citizens. For a good hard burned roofing tile however, there should be a big market. The cost is not prohibitive, but on the other hand, adds to the sales value of a structure to an amount that offsets the small additional investment.

The value of roofing tile manufactured in the United States has decreased from $1,130,286 in 1913 to $871,872 in 1917. Whereas, in Australia, there are but five and one-half million people as compared to one hundred and twenty million in the United States, yet there are twenty-two roofing tile factories in that country as compared with only one dozen in America.

While it may be out of the question to promote the use of roofing tile in the United States to the extent that it is used in Australia, there is no question but that there are possibilities of promoting a far greater use of roofing tile in this country than is now employed.

It would undoubtedly pay roofing tile manufacturers to unite in a cooperative agreement, perhaps in a manner similar to that of the stoneware manufacturers, and conduct a campaign to popularize the use of roofing tile.

* * *

PROPER DETERMINATION OF PRICES

BRICK AND TILE prices during the past two months have been tumbling. There may be two reasons ascribed to this. One is that the lower cost of production which is possible now, is reflected in the new prices, and the other is, that prices have been lowered in an effort to secure business without regard to costs.

Readjustment of prices, commensurate with the new levels, which has involved a lowering in nearly all cases, is commendable. It enables the public to have faith in the present level of clay product prices. With brick and tile prices now in line with other commodities that have been deflated to the new levels, they will be given a greater consideration in construction.

It is a fact, however, that the cost of hollow tile or brick is but a small part of the total cost of a building, hence revisions do not have an important effect on the cost of a structure. The big advantage in the price lowering is, however, in the confidence that it establishes in the public. It helps building.

There is one important consideration in the matter of making new prices. The plant owner or sales manager should not look at it from the angle of "How much should I get for this material," or "How much can I get for it?" The prices should be based on proper cost figures.

By proper cost figures it does not necessarily mean the cost of making brick at maximum production. This is an error that is often made. The average man likes to remember the time when he made his material for a certain low price and likewise, likes to forget the time, when the same material, per ton or thousand, cost him a great deal more. Then, when he gets ready to set his selling price—always allowing that he is basing it on his cost—he seldom, if ever, takes a high cost as his basis.

* * *

ADVERTISING FOLLOW-UP

INTEREST manifested in home building right now is intensely keen. Hundreds of persons are daily writing for literature obtainable from the various sources at hand. Hollow tile and brick literature procurable thru the three national associations, is having a wide call.

However, while the responses to the advertising campaigns carried on by the various associations have been highly satisfactory, this is not enough. The manufacturer of clay products is pleased to know that the public is interested in his products—that they are sending for booklets pertaining to hollow tile and brick construction—that they are even sending for the detailed plans—but the manufacturer of clay products desires this interest to be converted into real business. The question is, are the orders coming in as fast as they should, taking into consideration the interest manifested in clay products?

Many a factory has gone upon the rocks for no other reason than that its policy of distribution was weak. Similarly, many an advertising campaign has failed to reap the full benefits obtainable because the sales methods were not lined up properly with the advertising campaign. This is likely to happen in the clay products industry where the various manufacturers are left to handle the sales individually. Some clay producers are apt to rely solely upon the advertising copy placed in magazines and newspapers, together with the bulletins distributed by the national associations to take care of the entire selling problem. Those manufacturers who do this will be disappointed in the results obtained from the advertising campaign and will lose golden opportunities.

It is urgent that every manufacturer

take care of his inquiries either thru his dealer or himself with the very best of service. The average person knows too little about brick and tile construction—much less than of frame construction—which makes it necessary that complete information and aid be given. Moreover, those persons who sent for booklets during the winter months when it was impossible to build, should not be forgotten *now*. It will be well worth while to get in touch with them again and renew their interest.

* * *

LOWER COSTS, NOT LEGISLATION, WILL BUILD HOMES!

MANY PERSONS cling tenaciously to the hope that some form of legislation will solve the housing problem. The Senate Committee, headed by Senator Calder, suggested a number of remedies but it is a plain fact that people will not build until wages and prices come down.

Let's examine the case of a residence. According to the sociologist and statistician, a week's wages makes a fair month's housing charge for the individual,—whatever his income. Before the war then, when money was around 5 per cent., taxes 1 per cent., and maintenance and repairs 2 per cent., assuming heat, light and other current expenses to be 10 per cent. of the building charges, a man could afford to own a house valued at 130 times his weekly salary. Thus, a $3,000 house, figuring 10 per cent. for annual charges as above, would mean a rental or payment of $300 a year, which is $25.00 a month. Thus, a $1,200 man could own such a house. Similarly, a $5,000 man could own a $13,000 house.

Today, these same houses cost twice as much to build, that is a $3,000 home costs $6,000. Furthermore, the current expenses add up to roughly 12 per cent., distributed as follows: 6 per cent. for interest, 2½ per cent. for taxes, 3½ per cent. for maintenance. 12 per cent. of $6,000 is $720 a year or $60 a month for rental or expenses.

Sticking to the same standard of living—a week's salary for a month's rent the rental has increased over two and one-half times, and the man who would build or rent the $3,000 house in 1914 must have an income of about $3,200 a year, and similarly, the man who built or rented the $13,000 house at that time, must now draw annually about $15,000.

It is true that wages and salaries have gone up since 1914, but in no such proportion as this for the average man. What has happened is that the average standard of housing has gone down and must stay down until costs fall.

While it is true that tax and loan reforms would tend to lower the 12 per cent. charges, it would not affect the actual cost of a building and would have but a small effect on the annual charges, —probably lowering them from 12 per cent. to 10 per cent.

Until the actual cost of building, which is the main item in the increased burden of housing, begins to drop so that the relation between income and house expenses more nearly approaches the ordinary figure, people will continue to live in their cramped quarters to which high rent charges have brought them.

Building material prices have been reduced. In many sections labor still holds out for its high wage scale. What is needed most right now is less talk about legislation and more action in bringing down actual building costs, and then go *full steam ahead.*

* * *

ONE IN FIVE A TOTAL WASTE BUILD FOR PERMANENCY!

EIGHTY THOUSAND HABITATIONS must be erected each year to take the place of losses thru fire, obsolescence or alteration for other than residential purpose!

This statement is taken from the report made public recently by the Committee on Reconstruction and Production which was headed by Senator Calder. The annual report of the State Fire Marshal of Indiana shows that in 1919 there were 5,348 fires in that state. The State of Indiana has 2.73 per cent. of the total population of the United States. Assuming that the state is an average one with respect to fire losses, it means that there are something like 196,000 fires in the United States each year.

Taking these two statements together, it means that over 196,000 structures are damaged each year and 80,000 must be replaced. The report from the Indiana Fire Marshal states that the cause of most fires is due from sparks from chimneys. Second on the list is defective flues, and third is fire started from a fire in an adjoining building.

These three sources go to make up the largest percentage of causes for these immense losses. The proper use of clay products in chimney construction, roof and wall construction, would have prevented the major portion of these losses. Yet, in the face of the dire need for homes, these losses are permitted to continue.

In 1890, according to a statement quoted by the United States Housing Corporation, there were 110½ families for every one hundred homes; in 1902 there were 121 families for every one hundred homes.

The Bureau of Census is quoted as giving the normal yearly residence construction as 310,000 structures. However, assuming a higher figure, as estimated by some authorities, of 400,000 structures, it is estimated that at least one out of five new habitations erected must take the place of losses thru fire and other causes. These statistics show that there is not only a dire need for residential construction but emphatically, a need for more permanent construction.

* * *

MAKING "CLEAN-UP WEEK" WORK FOR CLAY PRODUCTS

THE LAST WEEK in April, or the first week in May is in many cities proclaimed "clean-up" week. During this week streets are cleaned, rubbish cleared away, and in many instances, repairing and repainting is done.

This idea has been advantageous to manufacturers of paint. However, it might easily prove of worth to manufacturers of clay products who might impress the fact that painting and repairing is caused, mainly, by the inevitable decay of wood when wood is exposed to the elements.

A few comparative costs based on the amount of money necessary to be spent for paint and repairs to make the frame houses in your neighborhood presentable, and to insure them against a still more disreputable appearance next spring, shown against the meager amount of work given by the window-frames and doors in brick houses, will go a long way towards proving the contention that it is more economical to build with brick than to present a great expanse of wooden siding or shingles to the elements.

If the high cost of painting is impressed on the minds of those who desire to paint right now, the timeliness of advertising the value of clay products along the lines mentioned is obvious.

CONSTRUCTION ACTIVITY GAINING MOMENTUM

Costs Have Stabilized and Obstacles Which Held Back Construction Have Been Removed—Time for Building is Right Now

THE SITUATION was most distressing. Plants were shut down and the industry was at the lowest ebb it had reached in years. Factors which formed a barrier, too formidable to pass, stood in the path of progress. No one knew exactly how to gauge the future. This in a nut shell describes the situation that existed in the construction industry but a few months back.

Those factors which held back building activity are all pretty well known. High prices for building materials, labor, freight, commission and interest on loans, and the difficulty in getting them, were the causes. The need for construction was there, but the demand which is need in potential form converted into kinetic, was not present because of the above mentioned obstacles. But this *was* the situation!

Something had to give way and that something covered a great number of items. One by one those factors which tended to prevent the buying public from having confidence in the stability of prices have given way. Prices of building materials including steel have come down. Loans have been easier to negotiate and labor in many centers has accepted reductions, and in other places the wages are at least constant for a year. Transportation rates, while abnormally high, show no signs of reducing, and hence there can be reflected no reduction in building costs due to this source.

DECKS ARE CLEARED FOR ACTION

The sweeping away of these impediments has cleared the decks for action. The construction industry is now getting into a strategic position and is regaining in activity at a rate that is most encouraging. Building reports from nearly every section show an encouraging gain in the number of contracts awarded over preceding months. Those who delay action will find themselves caught in a stampede later on.

One of the best expositions of conditions in the construction industry is that printed in the April number of "Common Clay," published by the American Terra Cotta and Ceramic Co. This is reprinted as follows:

"While agriculture is generally conceded to be the largest industry of the United States, yet the construction industry is nearly as large and in the opinion of many economists, it is far more important to the industrial development of the country. It is practically the only industry which adds to the taxable wealth of the country. After every year of normal construction the wealth of the country has been increased more than three billions of dollars, while the product of the agricultural industry has been consumed. So important is the construction industry to the welfare of the country, one is justified in the assertion—'As goes the construction industry, so goes the country.' This great industry, in common with the whole world, has fallen into evil days. It is practically at a standstill. So serious is the situation that many important conferences both local and national have been held with a view to a diagnosis of the problem and to prescribe the remedy or remedies necessary, for the restoration of normalcy.

PUBLIC LACKED CONFIDENCE IN PRICE STABILITY

"The whole problem of the diagnosticians was complicated only by a hazy interpretation of the law of supply and demand. At first glance it appeared as if the old law were suspended; but clearer vision demonstrated that while the need for building was great, the demand was not. 'Need' must not be confused with 'demand.' It was very evident that the reason why the demand did not keep pace with the need was the lack of confidence by the buying public in the stability of prices quoted by the building industry. It seemed to be true that the public considered that the market for building materials was a declining market, and until they were convinced that quoted prices were fair, honest, and subject to little fluctuation, the industry could look for very little improvement. If this diagnosis be correct the remedies are not far to seek. If prices are too high they must be brought to the proper pitch and the buying public must be convinced that a stable level of prices has been reached. If prices cannot be lowered, the buying public must thru sincere publicity be convinced that the present level of prices is stable and will not be materially lowered.

"We are of the opinion that in general the prices quoted for building material today cannot be materially lowered. It is necessary in speaking of the great industry as a whole to make the statement in this guarded way; but speaking of our own small share of the industry we can much more definitely and frankly announce that we see no possibility of a further reduction in prices, and we gladly publish our reasons for this conclusion.

MUST FIND A NEW LEVEL

"The return to normalcy so much desired is, in the minds of many, confused with the idea of a return to 1914 prices. Normalcy in 1914 comprehended a far different level of prices and values than could be hoped for in 1921. Much bloody water has run under the bridge since that fortunate period of peace. Even had the war not intervened the level of 1914 could not govern today. For a decade before 1914 prices had been steadily increasing due largely to the commendable betterment of the standards of living. Had the world run along on an even keel since that time, the natural increase of the cost of construction would have been at least thirty-five per cent. greater than in 1914. Consequently the normalcy of 1921 represents a legitimate increase of thirty-five per cent.

"But the war did intervene. War may change maps but it cannot change economic laws. War may be waged with holy fervor for the right and holiness, but the powers of right and holiness will not pay the bills. The people must pay the bills, not only for the legitimate expenses but also for the economic errors before the war, during the war, and after the war. There is no sovereign remedy for the payment of debts, except to pay them. The construction industry being the largest industry in the country producing economic wealth must pay the larger part of this enormous debt.

CANNOT RETURN TO PRE-WAR PRICES

A hasty glance at the size of the bills to be met will convince anyone that a return to pre-war prices is impossible. 1917 was the first year in the history of the country that ordinary disbursements of the government reached a billion dollars. Today the interest on the public debt alone is in excess of a billion dollars. In 1914 the ordinary disbursements of the government were $700,254,490. In 1920 they were $6,141,745,240, an increase of approximately 875 per cent. Up to March 1 of this year, a period of two-thirds of the fiscal year they were $3,247,295,635, an increase of over 700 per cent. over 1914. These figures do not include the expenditures of the Post Office department which have increased over one hundred millions per year over the expenditures of 1914. The cost of carrying this burden and for the payment of these debts must be added to the pre-war cost of construction. No fairy hand can wave away the responsibility. We fought the war idealistically, we won it victoriously, and today, in the grey dawn of the morning after, we must pay the bill inevitably.

"The burdensome additions to the cost of construction already noted are to be added before we come to the matter of actual construction; but, the burden imposed by them is evident in every phase of cost items. The cost of transportation of building materials has increased over three billions of dollars over the costs of 1914. The government has set the price of railroad labor; they have set the price the railroads must charge for their services. Building material men must pay these increased charges and there is no relief in sight. The price of money with which to do business has practically doubled, and due to the influence of tax-exempt securities now flooding the market the amount of money available for construction enterprise must inevitably be small, invoking the law of supply and demand to the detriment of construction production and unavoidably increased costs.

LABOR ONLY FACTOR THAT OFFERS RELIEF

"It is evident that the increased costs before mentioned are entirely uncontrolled by the construction industry. The coming year holds out no hope for relief. If relief comes at all it must come from that source over which the government does not at present exercise control, labor. There are two broad classes of labor, organized and unorganized labor. Both classes must help to bear their full share of the increased costs already outlined. The cost of living cannot approach pre-war prices. Then neither can the cost of labor. Organized labor will resent any large decrease in rates in so vigorous a manner that should they win or lose, the cost of the battle would more than offset the small decrease in construction costs. Unorganized labor will so resent any material decreases in rates that they, too, will protest with any weapon ready to their hands any attempt to force a greater burden on their shoulders than they already bear. Such reduction of wages that labor can stand have already been put into effect by the lack of employment. There has been a steady increase in the productivity of labor due to the same lamentable cause, but who is there who can say that this increased activity of production would be steadily maintained in the face of increasing demand for production?

"Look at the matter squarely. Study the fundamentals. The fixed charges of business activities, taxes, transportation, fuel, raw materials, finance and labor show absolutely no tendency to cheapen; on the other hand, if there be any change at all, increased activity of business will tend to increase charges. If labor, being hungry, is forced lower than a fair wage, labor, being fed, will regain the loss at the first opportunity. The construction industry, big as it is, is not big enough to fix the price at which their products can be sold. That has been fixed by a higher law; and as it is fixed, so it will and must remain. This is the grey dawn of the morning after, and we must face the facts as they are."

* * *

Will Never Again See 1914 Prices

The April issue of the bulletin put out monthly by the Common Brick Manufacturers' Association, says that it is unfortunate for the construction industry that the public insists upon taking the attitude that building costs must come down to the 1914 level. Some bankers, too, have taken this position, refusing to loan money for construction projects until a pre-war level has been reached. Several reasons are cited why prices can not go back to the 1914 level.

Increases in freight rates on brick amount to from 100 to 250 per cent. Wages have increased and will not go back again to where they were, taxes are higher, fuel costs are up and in addition deflation has not been fully accomplished as yet. The above mentioned items will go down, to be sure, but they can never go back to where they were in 1914.

Reports from 132 common brick manufacturers reveal the fact that a reduction in price amounting to twenty-seven per cent. has been accomplished. In February the average delivered on the job price for common brick was $18.05 which was reduced to $17.40 in March.

Stocks are being further reduced, the total amount of brick on hand being approximately 211,000,000.

* * *

What Will the Chicago Building Trades Do?

Building trades and building trades employers everywhere are watching with interest the next moves on the part of the union and Building Employers' association in Chicago. Chicago is acknowledged to be probably the strongest union city in the country and what labor does there is a fair indication of what will be the general procedure thruout the country.

The new contracts are to be signed May 1 but up till now no agreement has been reached. On April 8 the workers rejected an agreement drawn up by the contractors' association calling for a new standard in wages of a dollar an hour for skilled tradesmen and seventy cents an hour for common labor. This represented a cut of approximately twenty per cent. All indications point to the fact that contractors will stand firm for a reduction in the wage scale. If the agreements should fail to be renewed Chicago will practically be put upon an open shop basis with the employers at liberty to employ men at whatever wage they desire to pay.

The attitude of labor seems to be to sit tight and wait for activities to start; that building is bound to resume even tho costs remain at their high level.

* * *

Nebraska Association Postpones Meeting

Inasmuch as O. H. Zumwinkel, secretary of the Nebraska Brick & Tile Association is extremely busy with important legislation now pending, the regular quarterly meeting of the association which should have been held on April 12, has been postponed until April 26. The meeting will be held at Hastings, Neb.

It was at first thought that the meeting would be postponed only one week but as April 18 marks the opening of the Omaha Building Show, which has attracted great attention thruout the state, it was deemed advisable to transfer the meeting date to the twenty-sixth.

St. Louis to Have "Own Your Home" Show

Since other towns and cities around the country are holding "Own Your Home" expositions, St. Louis, Mo., has also caught the spirit of this movement and will conduct such a show at the Coliseum April 25 to May 1. The exposition will show the latest developments in building homes, from the modest bungalow to the pretentious mansion, and the progress also in the construction of stores, office buildings, schools, garages and other similar structures.

There will be addresses each day on how to plan, finance and build a home. Attention will also be given to the economical and artistic furnishing and arrangement of the home.

It is hoped that this show will stimulate the inherent desire which every man has, to own his home, and as a natural consequence an increase in building activity will result. Every type of building material will be represented and clay products are intending to be on the job. Representing the clay industry on the committee are Ralph Simpkins, vice-president Hydraulic-Press Brick Co. and J. G. Hewett, secretary-treasurer. Winkle Terra Cotta Co.

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CONSTRUCTION GRADUALLY OPENING UP—ACTIVITY MARKED *by* BUYER'S CAUTIOUSNESS

PURSE STRING DAYS in the building construction industry are passing.

Factors promising far reaching effect upon prospective residence construction, especially, are developing that are forcing the prospective buyer of building materials to give heed to something else beside price bottoms. He has been sitting on the economic beach watching the price tide going out until he has suddenly awakened to the possibility of the recession being caused by the suction of influences that are making for a great tidal wave of building material demand, says the Dow Service daily building report of April 9, 1921.

Fundamentally the continued downward price trend of building materials is unsound, not from the manufacturers' point of view or welfare, but from the point of view of the prospective builders' welfare. If everybody holds back and waits for the price tide to reach its uttermost reflux everybody may be expected to rush into the market for supplies when full consciousness is aroused that the influx has begun.

The ebbing limit of building material prices has been reached and the inflow has already started, but the man on the beach does not notice the change that is taking place.

1,240,000 HOMES MAY BE BUILT

The size of the waves appear to him from his vantage point as about the same size they were two months ago. Then the waves of construction were fitful and could not be definitely classified. Today the construction-wave formation is capable of being distinctly classified. It is easily recognized as being habitational. This wave formation is destined to grow to a height represented by 1,240,000 prospective home builders, most of whom have been sitting on the beach awaiting the turn of the tide. About one-third of this number will have their building projects under way before the waiters discover that the oncoming crest is of tidal wave proportions.

Building construction for practically 200 cities in January and February were approximately twenty-five per cent. in excess of the average for the same two months in 1918, 1919 and 1920. The average for January over these three years was approximately $57,448,000 based upon Bradstreets' estimate while that for January 1921 was $58,599,000. The same authority shows that the February average for the preceding three years was $57,144,000, whereas the national average for February this year was $81,074,000. The Dow Service compilation for the first three months is $301,960,000, compared with $401,800,000 for the first quarter of 1920, $366,800,000 for the same period in 1919 and $120,000,000 for the identical months in 1918. Compared with a "normal" year first quarter of 1921 gives a total of new construction of $301,960,000 as against a first quarter total in 1912 of $256,600,000.

Had the first quarter of 1921 not been characterized with general readjustment of production costs and market prices no one questions the volume of construction that would have developed with the open weather conditions that characterized the first three months of 1921. This volume of construction is still to come out some time. Much of it is at last on architects' boards indicating a volume of building material supply later this year that will seriously tax the scanty mill and dealer stocks of the country.

It is not to be assumed by the prospective builder that the manufacturers of building materials will rush to over-production. Some of the far sighted thru the recent dull period have kept their mills going at or near full capacity. Others have closed their plants or greatly restricted production. Some mills have only just begun to resume operations. Building material dealers are proceeding just as cautiously in their stock purchases as are the manufacturers of building commodities, who, in turn, are gaging their production schedules upon the buying movement of prospective builders who are, in turn, proceeding cautiously.

RAILROAD FACILITIES INADEQUATE

Too much complaisance cannot be placed upon the present dearth of business in the transportation department. Railroads are hungry for business. They have many idle freight cars. They also have the largest number of "bad order cars," cars that are in need of repair, than they have had in years. Their shops are closed. These "bad order cars" are not being repaired. Therefore, if business should suddenly resume, and indeed, the turn is near, it would not take many months to absorb the available supply of empty freight cars and turn a surplus into a shortage, and by June the building season will have been about half spent.

It is not difficult to picture a condition then not vastly different from that which followed the railroad strikes and their disrupting aftermath last year, a condition which brought about peak prices for materials and the construction site. Price cuts that are made now are plainly artificial price reductions. Artificial price cuts are those that represent sales below cost of production. Mill managers are trying to bring their 1921 production costs down to levels that will permit them to maintain present retail building material prices, but if buyers wait until the fag end of the building season and then all rush into the market at once, costs cannot be held down and retail prices must go up.

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Brick Price Recedes

The Hamilton Brick Manufacturers' Association has reduced prices from $24 to $20 for standards; $21 to $18 for seconds, and $16 for inside brick.

REPLACE $250,000,000 FARM BUILDINGS YEARLY

More Extensive Use of Hollow Tile Should Be Made on Farms So as to Give Permanency of Construction Which is Urgently Needed

By E. G. Meredith

Former United States Secretary of Agriculture

THERE CERTAINLY is no question as to the advisability in this country of our having more permanent buildings, buildings that would avoid the fire hazard and the loss from fire that we are suffering today, but we have a policy in this country, or at least a custom somewhat different from what they have in some other countries. I saw a reference recently to an incident where an individual in England wanted to build a stucco house and he was refused a permit and the reason given was that the house would not last 200 years. If we drew the line on buildings in this country that would not last 200 years I am afraid it would bar out many of the buildings that are at this moment in the course of construction. There should be more attention given to this matter of permanency, an educational campaign, if you like, and I know of no one who is more at interest in such a matter than the hollow tile people. There should be a good deal of attention given, it seems to me, by those interested in hollow tile, to the design of buildings. There is much that can be done in the way of better design of farm buildings, to say nothing of the city buildings, and that reminds me again of what a farmer said some time ago. It happened that his house was on a side hill, and the back end of it was built up somewhat and the hogs had a habit of roosting there and somebody said to him that that was unsanitary and unclean, and he said, "Well, I don't know. They have been doing that for ten years and I have not lost any of them yet."

MUST GET OUT OF RUT

There is too much of this going along in the same old way, doing the things that we have been doing, and a better design, designs that possibly might lend themselves to the use of hollow tile, would, it seems to me, encourage the use of hollow tile and at the same time be a very great service to the farmer and the people generally.

It came to my attention just before I left the Department of Agriculture that the Department of Home Economics at Washington, thru the women home-demonstration agents, sent a thousand earnest women out over the country discussing the problems of the housewife, and had just gotten out a bulletin showing the home arrangement, particularly the kitchen. These women had visited thousands of farm housewives, had stayed all night or had visited during the day with no particular purpose in mind so far as the housewife was concerned. But they were very careful to watch every step she took during the day, how many times she went from the kitchen stove to the ice box or from the ice box down into the cellar or to the kitchen sink, and so on. They tabulated those and have laid out an ideal kitchen, several suggestions that would fit different houses.

They found that many housewives, for instance, who had one trip of thirty steps to take, would take that trip ten times as often as they would take some other trip in which there were only five steps, and their arrangement of these kitchens was to see that the steps they had to take most often, from the sink to the stove or the sink to the back porch or whatever it might be, were the short trips, and that the longer trips were the infrequent trips.

Certainly, that is a service, a very practical service, and it means the saving of many, many steps for the farmers' wives who are already burdened with their labors, if thru these bulletins houses can come to be built with an arrangement such as has been suggested. Many such problems could be answered in the farmers' work by better design of their buildings, and some such educational campaign carried on by the tile people suggesting where tile enters into these things is certainly advisable.

There is the question of fire risk. I saw in a bulletin of the department that a tile building—it did not specify tile, as I remember it, it was a clay product, brick—brick building with a metal or slate roof was the first risk, that is the cheapest risk so far as mutual fire insurance companies are concerned, and they had suggestions as to how mutual insurance companies should be organized, what rates they should charge and so on. The rate or premium was fifteen cents or .15; the Class C risk was a frame building with a wooden roof but rodded according to the best practices to avoid fire from lightning, as good a risk as you could get from wood, and yet the Department of Agriculture recommended to mutual insurance companies that the rate should be .24, or, in other words, eighty per cent. practically, increase in the rate as against the other rate. There is also the question of first cost.

LIFE OF BUILDING NOT SO IMPORTANT AN ARGUMENT

I do feel that the question of design, the question of arrangement, the question of upkeep, to a certain extent such expenses certainly as insurance, can well be urged by the tile people. I would not feel, if I were in the tile business possibly, that I could urge as forcibly the question of the life of the building as I could some other things, because if you will stop to consider a certain building, say, that is to cost, tile $10,000, if it should cost that, and a frame building that might be built, I don't know the figures on this, you know what the difference in cost might be, but say $7,000, if you were arguing with me that the longer life the better construction and so on, if the frame building answered the same purpose and was as convenient and I could

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Editor's Note:—This article is part of an address delivered before the Hollow Building Tile Association Convention on March 30.

guard it against fire, which would be an argument with me, I would point you to the fact that the $3,000 that I didn't pay in if I kept it myself for fifteen years would amount at the end of fifteen years to the total cost of my $7,000 building; in other words, if a man is considering a $7,000 building and a $10,000 building, he can build the $7,000 building and have it free of cost at the end of fifteen years, while he would not get free of cost on the other building because there would not be the saving. So it does not seem to me as a selling proposition the life of a building at an increased cost would be a particularly good argument with me. The life of the building at the same cost would be a very great argument, of course.

Now, so far as the market for tile is concerned, I naturally have had a contact with agriculture. I am somewhat selfishly interested in agriculture today, and I hope that none of you will feel what I may say is in any way selfish from my standpoint or a selling talk but is wholly due to my prejudice, if you like, in favor of the farm field. It seems to me that it offers you the very greatest field you could possibly have.

ANNUAL HOLLOW TILE OUTPUT IS $20,000,000

The total value of hollow tile marketed annually is about $20,000,000. Well, I have some figures I want to show you indicating what the possibilities are as against that total of $20,000,000. In the first place, here is a memorandum of the building which the farmers expect to do. This survey was made in February, 1920, last year. Possibly they were more optimistic then than they are now.

Many of these buildings have not been built for many reasons so that there are a good many that they expected to build that are still to be built. There has been the wear and tear on the old buildings, and by taking the agricultural states here from Ohio to Oklahoma, that is, what is recognized as the corn belt. For instance, in that territory there are 2,373,000 farms. Those who answered, some three thousand, as a test, thirteen per cent. of them said that they were going to build houses; twenty-three per cent. said that they were going to build corn cribs; ten per cent. would build hog houses; four per cent. would build granaries; seven per cent. would build machinery buildings; six per cent. would build a garage; fifteen per cent. would build poultry houses; twenty-three per cent. miscellaneous buildings, and twenty-eight per cent. were going to do no building at all.

UNIFORM CONDITIONS OF PROSPERITY DESIRABLE

Now, then, that gives you some idea of the percentage of the farmers that are planning on building all the time, the average straight thru. For instance, on houses, over thirteen per cent. are planning to build a house, and on the smaller buildings, such as a barn, twenty-three per cent. It gives some idea of the number planning all the time on the farm in building. It is estimated that if the farmer today was in a situation where he could build that you would have a building campaign far in excess of what they planned at that time. That is where, it seems to me, you are interested in the general condition of agriculture; that you may not have a slump, that you may not have a boom condition but that you may have a general prosperous condition.

These men were asked what kind of material they expected to use. Eighty-five per cent. said they would use lumber; forty-nine per cent. said they would use cement; five per cent. would use brick; ten per cent. would use hollow tile; one per cent. would use cement blocks; three per cent. would use stone; one per cent. would use iron or steel; and one-half of one per cent. would use slate.

Now those are the answers, and naturally a farmer, the same as you or I, will use the material or have in mind to use the material with which he is best acquainted. Lumber naturally comes first. Lumber is increasing in cost. There is a way, and I think a most important way of reducing the cost of lumber, but the same problem enters as does in the permanency of our buildings. It is a matter of indifference on the part of the people; in other words, the way to reduce building so far as lumber costs are concerned is not by using less of it or not by using inferior lumber but by reforestation of the hundreds of thousands and millions of acres of cut-over land and burned-over land in this country, and the government is doing something in that direction, but we are not going to have immediate results from reforestation.

LUMBER CONSTANTLY INCREASING IN COST

So that the eighty-five per cent. of the material that these farmers are planning on using is constantly getting higher and more expensive, and it has been true since they cut the lumber first in the East in Pennsylvania and so on and then moved to Michigan, then moved on out to Minnesota, and now moved still further west with the Southern lumber in between. I saw a report a while ago, a survey of the timber situation which showed the constant jumps, increases in cost of lumber until it is getting more or less prohibitive so far as cost is concerned and is likely to go still higher.

The question of what material these people will use is determined by the nature of the campaign, the effort that is made to acquaint them with a particular material, whether it be the tile or whether it be brick or stone or some variety of lumber; it must depend naturally upon the acquaintance the farmer has with the material, and it is quite evident that he has not had an acquaintance with tile that is comparable at all with his acquaintance with lumber or with cement.

I understand that there is a freight rate problem, I understand the difficulties, and yet the cement people have very largely met that so far as their educating the farmer and the people generally as to the use of cement so that there is a percentage of those who already have their minds made up as to what material they will use, and the only thing that will change them will be some new information, some argument, something that might be done that would convince them that some other material was a better material for them.

MILLIONS SPENT YEARLY ON FARM BUILDINGS

The value of farm buildings in this particular territory, this corn belt territory, these thirteen states, was in 1900, $1,700,000,000, in 1910, $3,000,000,000 and is estimated in 1920, altho the census figures are not yet available, at least $10,000,000,000. Ten billion dollars of farm buildings! Now, if you will take of your ten billion dollars and grant that you get any percentage of it that you like, it is constantly being replaced, if the life of it is forty years you have got during that time $250,000,000 a year for replacements alone; if the life is forty years. Now, on the basis of $250,000,000 if you men get five per cent. of it, one-twentieth of that, a year that means $12,500,000, or fifty per cent. of the total output today of all the hollow tile on the basis of $20,000,000.

Here are the silos in these thirteen states. Twenty-two per cent. of these farmers expect to build silos. As I remember it, it was twenty-two per cent. out of 2,375,000 farmers; twenty-nine per cent. have silos, twenty-two per cent. expect to buy silos or build silos, and on the basis of twenty-two per cent. of the 2,375,000 farmers you have got 522,000 farmers now at this time contemplating the building of a silo. I do not know what the tile would cost in a silo, but on the basis of ten per cent., ten per cent. only of those 522,000 silos that is 50,000 silos if they would use as much as $100 worth of tile per silo you have got $5,000,000. That is on the basis of ten per cent. only of those who are thinking about it now, and that is twenty-five per cent. of your total output. It does seem as tho the right kind of a campaign, the right kind of advertising, the right kind of management, granting that silos should be built from hollow tile, would secure one out of ten, or twenty-five per cent. on the basis of $100 only per silo for the tile, or $5,000,000. So that the possibilities in the farm field when it comes to material used is almost beyond estimating.

IS HOLLOW TILE GETTING PROPER PERCENTAGE?

Now, I understand, of course, that you can make a Colonel Sellers talk, that there are 2,500,000 farmers and if you get $10.00 from each one of them you get $25,000,000 and if you get $100 a piece you get $250,000,000 and so on, but I do not believe that in the hands of capable business men with a well thought out campaign, with the right design, with the arguments that can be made for a material such as hollow tile, that it is Colonel Sellers' way of figuring to estimate that you ought to increase, that you ought to get your percentage. You are getting a percentage, but are you getting the percentage that you should have, if ten per cent. of it amounts to $5,000,000, and your total output is $20,000,000, or are you getting the percentage of the replacements alone in farm buildings, if they are going to replace on the basis of forty years' life, $250,000,000 a year?

It seems to me those are problems that the tile men could well afford to give their attention with the idea of doing whatever might be done to bring to this immense market the information that would result in sales for their material, at least, that is the way I would look at it with just a hop, skip and a jump as far as I have given attention to it in the last two or three days and for a very few minutes at that, but it seems to me, men, that granted there is a field, granted that these farmers are building buildings, that they should be more permament and with less fire hazard than the city buildings due to the fact that they have no fire protection, and certainly if any man should build to protect against fire it is the farmer out here without fire protection; granted that there is that field then the question is whether or not you should not give some attention both as business men and as citizens to that field, and take an interest in the agencies that are developing and making it possible for these farmers to equip themselves.

* * *

Coal Prices Now Being Quoted

Coal operators continue to report low activity and few orders. In view of present weather and industrial conditions it is hard to interest either domestic or steam lump buyers. In regard to the present situation the "Black Diamond" says the following:

"The railroads are keeping company with other large users of coal in remaining out of the market and many of them are relying on storage piles for present requirements. All in all, the situation can be summed up as one of 'no market' and, in this case, 'no market' can be written in red rink. In the meantime, the possible production loss to the nation runs better than 4,000,000 tons a week and unless a buying movement starts and starts at once, the country may later in the year find itself with a production loss so great in proportion to the new needs of the country that it cannot be made up.

Prices for the various fields follow:

"Southern Illinois, including Saline, Franklin and Williamson counties, domestic sizes, $3.60 to $3.65; mine run, $3 to $3.50; screenings, $2.75 to $3; steam sizes, on contract, $2.60 to $3.65.

Indiana fields, prepared sizes, $3.50 to $4; mine run, $2.25 to $3; screenings, $2.25 to $2.75.

Central Illinois, domestic sizes, $3; mine run, $2.25 to $3; screenings, $2 to $2.25.

Peoria district, spot prices, prepared sizes, $3 to $3.25; mine run, $2.75; screenings, $2 to $2.50.

Spring Valley, free coal, six-inch chunks, $4.75; on contract, $4.50; washed inch-and-a-quarter screenings, on contract, $3.85.

Prices are being well maintained in the Columbus, Ohio, market, in the face of what some operators say is the dullest business for five years. Hocking lump is $3 to $3.50; mine run, $2.50 to $3; nut, pea and slack, $1.75 to $2, f. o. b. mines.

Prices at the mines, as quoted in eastern Kentucky, show block coal ranging from $3.50 for low grade to $4 for the highest grades; mine run, $2.25 to $2.75; nut and slack, $1.60 to $2.15. Most of the mine run is quoted at $2.50@$2.75, but some lower quality fuel is quoted as low as $2.25. Screenings for the most part are quoted at $1.85@$2.

Western Kentucky quotations, as made by some of the leading operators, show lump, $3.25; nut, $2.75; run of mine, $2.60; nut and slack, $2.25; pea and slack, $2. Prices as quoted on averages for the field last week showed prepared, $2.90 av. range, $2.55@$3.35; mine run, $2.25 av. range, $2 @$2.75; screenings, av. $1.75, range, $1.50@$2.60.

These prices are taken from the "Black Diamond."

* * *

Figures Show Brick Houses Cheap as Frame

Comparative figures on the cost of erecting brick and frame houses were laid before the council committee on buildings at Chicago recently. These figures practically proved that building with brick was no more expensive than frame construction.

The meeting had been called to consider the suggestion of lifting the ban on frame house construction in certain sections of the city in order to facilitate the building of homes and help relieve the housing shortage.

William Schlake, president of the Illinois Brick Co., Chicago, and head of the Associated Builders, compiled the figures and presented them to the committee. Mr. Schlake contended that the organization of which he was head, did not oppose the erection of frame buildings where it could be shown that there was any appreciable saving. Following are the figures on the relative costs of frame and brick in the erection of a six room bungalow.

	Brick.	Frame.
Excavating basement	$ 185	$ 185
Foundation	833	833
Brick walls	1,015	673
Basement floor	461	461
Lumber and mill work	1,335	1,335
Finished hardware	75	75
Sheet metal and roofing	175	175
Lathing and plastering	352	352
Heating	200	200
Plumbing and gas fixtures	700	700
Exterior painting	50	122
Interior painting	250	250
Electrical work	120	120
Fixtures	80	80
Shades	40	40
Decorations	85	85
Total	$5,956	$5,686

The above figures represent the cost of building a twelve inch brick wall, Mr. Schlake said, and if the wall were reduced to eight inches the cost would be reduced about $300 which would make the cost of a brick house no greater than the frame.

* * *

Sand-lime Brick in Europe

Sand-lime brick are rapidly gaining in popularity in Europe, according to a statement in "Commerce Reports." Within the last seventeen years the manufacture of sand-lime brick has increased from a few millions a year to over 2,000,000,000.

KILN TURNOVER LIMITS PLANT CAPACITY

Showing How a Chart Should be Kept of Kiln Progress and Suggesting a Method for Determining Kiln Requirement

By I. A. Krusen

American Refractories Co., Joliet, Ill., Formerly with Laclede-Christy Clay Products Co., St. Louis, Mo.

ONE OF THE MOST IMPORTANT factors in keeping down costs, particularly overhead costs, is to limit ourselves to the necessary equipment for a plant, and then keep this equipment working to capacity.

A careful analysis of the capacity at each stage of manufacture, gives surprising results of inefficiency in clay products plants which, at first glance, we assume to be well planned.

Certainly there is a great deal of truth in the old proverb that "A chain is no stronger than its weakest link." In the clay plant this weak link is very apt to be the burning department. Here, as a rule, we find more idle capital and wasted time than in any or all other departments. A majority of clay plants have their kilns now equipped with pyrometers and much attention is given to quick burning time. However, I wonder how many plants know just what their kiln turnover was for the past three months. A very simple chart, such as accompanies this article, can be used advantageously to show the kiln turnover per month and it gives us an analyses of just how the time was used. The head burner or man in charge of burning, should fill in the data required on the chart each morning.

CHART SHOWS HOW TO RECORD KILN DUTY

In the accompanying chart is shown the status of seven kilns for the month of December. This month has 31 days and 31 times 7 equals 217 kiln days to account for. Checking down the column of kiln No. 1, we see it was lit twice during the month; kiln No. 2, twice, and so forth. In all we lit thirteen kilns. Since some of the kilns were already in the burning stage at the turn of the month of November, and hence were burning on December 1, we find that it is a fair average during steady operation to count each kiln lit in the month as burned.

To get the kiln turnover we divide the kiln days by the num-

DATE	KILN LIT	KILN NUMBERS							BUSY				IDLE			TOTAL		NOTES
DEC.		1	2	3	4	5	6	7	B	C	D	S	R	ST	E	BUSY		
1	1	B	S	D	C	C	C	B	2	3	1	1				7		
2	—	B	S	**E**	D	C	C	B	2	2	1	1			1	6	1	
3	1	B	B	S	D	C	C	C	2	3	1	1				7	—	
4	—	B	B	S	S	**ST**	C	C	2	2	—	2		1		6	1	Both Gangs setting No cars to load.
5	1	B	B	B	**ST**	**ST**	C	C	3	2	—	—		2		5	2	
6	—	C	B	B	S	D	**ST**	C	2	2	1	1		1		6	1	
7	1	C	B	B	B	S	D	C	3	2	1	1				7	—	
8	—	C	C	B	B	S	**E**	D	2	2	1	1			1	6	1	
9	1	C	C	B	B	B	S	D	3	2	1	1				7	—	
10	—	C	C	B	B	B	S	S	3	2	—	2				7		No Cars
11	1	D	C	C	B	B	B	S	3	2	1	1				7		
12	1	**ST**	C	C	C	B	B	B	3	3	—	—		1		6	1	
13	—	D	**ST**	C	C	B	B	B	3	2	1	—		1		6	1	Machines down No brick to set.
14	—	**E**	D	C	C	B	B	B	3	2	1	—			1	6	1	
15	—	S	D	C	C	C	B	B	2	3	1	1				7		
16	—	S	**E**	D	C	C	C	B	1	3	1	1			1	6	1	
17	1	B	S	D	**ST**	C	C	B	2	2	1	1		1		6	1	
18	—	B	S	**E**	D	C	C	C	1	3	1	1			1	6	1	
19	1	B	B	**E**	**ST**	C	C	C	2	3	—	—		1	1	5	2	
20	—	B	B	S	D	**ST**	C	C	2	2	1	1		1		6	1	
21	—	B	B	S	**E**	D	C	C	2	2	1	1			1	6	1	
22	1	C	B	B	S	D	**ST**	C	2	2	1	1		1		6	1	
23	—	C	B	B	S	**R**	D	C	2	2	1	1	1			6	1	
24	1	C	C	B	B	S	D	**ST**	2	2	1	1		1		6	1	
25	—	C	C	B	B	**ST**	**E**	**ST**	2	2	—	—		2	1	4	3	Xmas
26	—	C	C	B	B	**ST**	**E**	**ST**	2	2	—	—		2	1	4	3	
27	—	**ST**	C	C	B	S	**R**	D	1	2	1	1	1	1		5	2	
28	1	**ST**	C	C	B	B	S	D	2	2	1	1		1		6	1	
29	—	D	**ST**	C	C	B	S	**E**	1	2	1	1		1	1	5	2	
30	1	D	**ST**	C	C	B	B	S	2	2	1	1		1		6	1	
31	—	**E**	D	C	C	B	B	S	2	2	1	1			1	6	1	
	13								66	69	24	26	2	19	11	185	32	

B = Burn
C = Cool
D = Draw.
S = Set
R = Repair
E = Empty
ST = Storage

Bold face Type represent IDLE TIME.

This Simple Chart, Which Shows the Status of Seven Kilns for the Month of December, Can Be Used Advantageously to Show the Kiln Turnover Per Month and It Gives Us an Analysis of Just How the Time Is Used.

ber of kilns lit, or 217 divided by 13 equals 16 9/13 days, which is our total kiln turnover. Checking up our read or bold face type figures we find 32 days of idle time, or 2 6/13 days idle time for each kiln burned.

This idle time could be analyzed still further, showing that the kiln stood empty 11 days, storage (ready to draw) 19 days, and under repair 2 days. Deducting our 2 6/13 days of idle time, our busy or actual time required to turn the kiln is 14 3/13 days, or figuring idle time in terms of per cent. we lost 15 per cent. of the total kiln days—much of which might have been avoided.

Our average burning time is obtained by taking the total, or 66 days of burning time, and dividing it by 13 kilns lit. This gives us an average burning time of 5 days. To figure the number of kilns necessary for a plant, the following formula may be used:

A year equals 365 working days, of which 52 are Sundays and 6 holidays, or altogether there are 307 working days. This is 84 per cent. of the year. Let us assume that we have a production of 40,000 brick per day and our kilns have an average holding capacity of 80,000, also that our kiln turnover is 15 days.

FORMULA GIVES KILN REQUIREMENTS

Then, the kiln holding capacity divided by the kiln turnover equals the daily production divided by the number of kilns required, which is unknown. This may be expressed as a formula in the following manner:

$$\text{No. of Kilns or } X = \frac{\text{Kiln Turnover times Daily Production}}{\text{Kiln Holding Capacity}}$$

Substituting figures in the above formula you have:

$$X = \frac{15 \text{ days times } 40 \text{ M}}{80 \text{ M}} = 7.5 \text{ kilns.}$$

However, we only operate 84 per cent. of the time, due to Sundays and holidays, so we will need only 84 per cent. of our 7.5 kilns, or 6.3 kilns. In order to get 6.3 kilns, we can build two kilns somewhat smaller than our standard size kiln. This then will give us our required capacity. By keeping a record of what our kilns are actually giving, we may be able to reduce idle time, thus reducing the time of kiln turnover. This will result in greater kiln capacity and may increase the production of a plant without requiring the construction of additional kilns, where, heretofore, the burning has been the limiting factor.

Brick in Office Interior

In the latest bulletin issued monthly by the National Board of Fire Underwriters is reproduced a picture of the fireproof office of President Wm. Merrill. The walls of the office are of a warm reddish-brown brick and tile, the floor is of green tile and the ceiling of buff. Besides being entirely fire resisting, the office is unusually beautiful.

UNIFORM COST SYSTEM *for* PAVING BRICK MEN

PROBABLY the most valuable document ever prepared for the benefit of the paving brick industry, and one which even the most astute manufacturers have admitted, is essential to the profitable conduct of their business, has been completed after months of research work. The System of Uniform Cost Finding for Paving Brick Manufacturers, compiled by a special committee of the National Paving Brick Manufacturers' Association has been completed, and is being distributed now among the members.

The system, contained in a volume of about fifty pages, covers every possible contingency that may arise in the production of paving brick, as far as costs are concerned, and observance of which, members of the committee that prepared the book believe, will assure profits where formerly losses may have occurred.

The committee that conducted the survey was headed by Spencer M. Duty, president, the Medal Paving Brick Co., of Cleveland. Assisting him were W. C. Brown, G. E. Mosher, H B. Murray, Jr., W. H. Terwilliger and J. R. Thomas.

SYSTEM APPLIES SANE PRINCIPLES

The system has been compiled largely with a view toward applying safe and sane principles of ascertaining and keeping costs, rather than extreme accounting accuracy. It is expected that the individual plant operator will apply the system in the way that will best suit his personal needs.

Total cost has been divided into three groups—manufacturing costs, rehandling and selling costs, deductions from gross sales. Manufacturing costs are considered from the point when mining operations start until the brick leaves the kilns. Rehandling and selling costs include the rehandling of brick after they have been placed in stock until sold by the salesmen, and include salesmen's salaries. Factors covered in deductions from gross sales include freight outbound, teaming on brick delivered, trade discount allowed for prompt payment, allowances for rejections and shortages, association dues and promotion, and commissions paid on sales.

COVERS EVERY ITEM OF COST

A recommended profit and loss statement and the arrangement of total costs in divisions, groups and sub-groups is given.

In manufacturing costs the survey goes into detail to show the manufacturer how to include every possible item of cost from the time he starts to make brick until the brick is finished ready for sale, and a score or more of these details are covered in minute manner, so that there is no possibility of the manufacturer overlooking any detail. It is pointed out further that sub-grouping is largely a matter of individual choice and that it may be accomplished without destroying uniformity. The system, while uniform, therefore is flexible.

Every one of these score or more details of manufacture are dealt with separately and explained, so that there can be no mistake about the meaning of burning, drawing, kiln and finished brick loss and the like.

DEPRECIATION, INTEREST, INVESTMENT DEALT WITH

Special attention is given to depreciation, interest on investment and finished brick stock, repairs and maintenance, taxation, distribution of overhead charges and similar hitherto sometimes neglected features of the business. Bookkeeping methods are dealt with only in a general way.

All the phases outlined in the foregoing are illustrated by a series of typical cost compilations covering a period of one month, in a supplement attached to the volume, assembled from the text so that the manufacturer can obtain any particular information by consulting that example which interests him most at the moment.

And not the least of this exhaustive compilation is an index alphabetically arranged with heads and sub-heads, wherein, at a glance, the manufacturer can obtain reference to each single piece of information he desires.

PROPER USE *of* THREAD CUTTING TOOLS

Time, Money and Delay Can Be Spared the Clay Plant Thru a Knowledge of the Use of the Various Thread Cutting Tools

By G. H. Radebaugh

Asst. Manager Shop Laboratories Dept. of Mechanical Engineering, University of Illinois

A TAP is a hardened and tempered tool for cutting internal threads. It has a thread cutter on it and flutes to give cutting edges. The blacksmith tap is tapered three-quarters of an inch to the foot. It is used on tapping jobs where a standard is not necessary to maintain. The set of machinist's hand taps (Plate I) is not tapered, and maintains one size. In these two styles of taps many different sizes are used. Taps run in sizes by sixteenths. Taps one sixty-fourth or one thirty-second over size can also be bought. When drilling a hole for a tap, the hole should be the diameter of the bottom size of the thread. Some taps have marked on the shank the size drill that should be used in drilling the hole for tapping.

STANDARDS OF THREADS

The pipe tap (Plate I) is used for cutting pipe threads. The pipe thread is a different standard from machine bolts and machine screws. There are two standards of pipe threads, the Briggs and Whitworth Standards, the Briggs standard being the most universally used. A tap wrench is used for screwing the tap in the hole. When tapping cast iron, it is not necessary to use oil, but in tapping steel a good fatty oil should be used.

The die and die stock (Plate II) is used for cutting threads on bolts and screws. A die block is furnished for each size of thread. Die blocks run in the same standards as the taps. Thread standards cause more or less difficulty in using screws of all sizes and designs. The machine bolt standard differs from the standard of threads used in automobile construction. A common standard for ¼ inch is twenty threads to the inch; ⅜, sixteen threads to the inch; ½, twelve or thirteen threads to the inch.

CUTTING THREADS WITH DIE AND TAP

When fitting bolts, nuts, and screws on repair jobs, difficulties are sometimes encountered for the reason that the operator does not fully appreciate the importance of thread standards.

Pitch of a screw is the number of threads to an inch and it is very important when fitting a screw in a job that we know that the number of threads on the screw and in the job are the same.

We use extensively in this country the U. S. Standard thread, which can be identified by a flat top on the thread points. The V thread, which is the shape of a V at a 60 degree angle can be identified by the thread coming to a sharp point.

There are one or two other styles of threads, but these two are the most common. The shape of the V Standard, Whitworth Standard, United States Standard, Acme Standard, British Association Standard, and Square Thread are shown in Plate III.

As to standards of threads, that is—the number of threads per inch for bolts and nuts such as used on machines, the U. S. Standard is most commonly used. A chart for this standard is shown in Fig. 1.

STANDARD AUTOMOBILE THREADS FINER

For bolts and screws used on automobile construction the the sharp corners should be removed at an angle of about standard some years ago. A finer pitch identifies this standard. For an example, the U. S. S. thread for a ½-inch bolt is thirteen threads per inch and the S. A. E. thread for a ½-inch bolt is twenty threads per inch.

For the convenience of the trade, all tap and die manufacturers mark on the tool the standard number of threads per inch, size of thread, and sometimes on the tap the size drill to be used to drill the hole for tapping.

Taps and dies when being used on steel must be lubricated. A good grade of animal lard oil, sperm oil, and graphite and tallow mixtures (ten per cent. graphite and ninety per cent. tallow) are the best lubricants to use when tapping or threading steel or iron.

Remember that a good soap compound is better than "mineral lard oil."

BE SURE TO USE PROPER SIZE DRILL

Machine oil is a poor thread cutting lubricant.

When tapping cast iron, use very little oil, as it has the disadvantage of causing the chips to stick to the tap flutes.

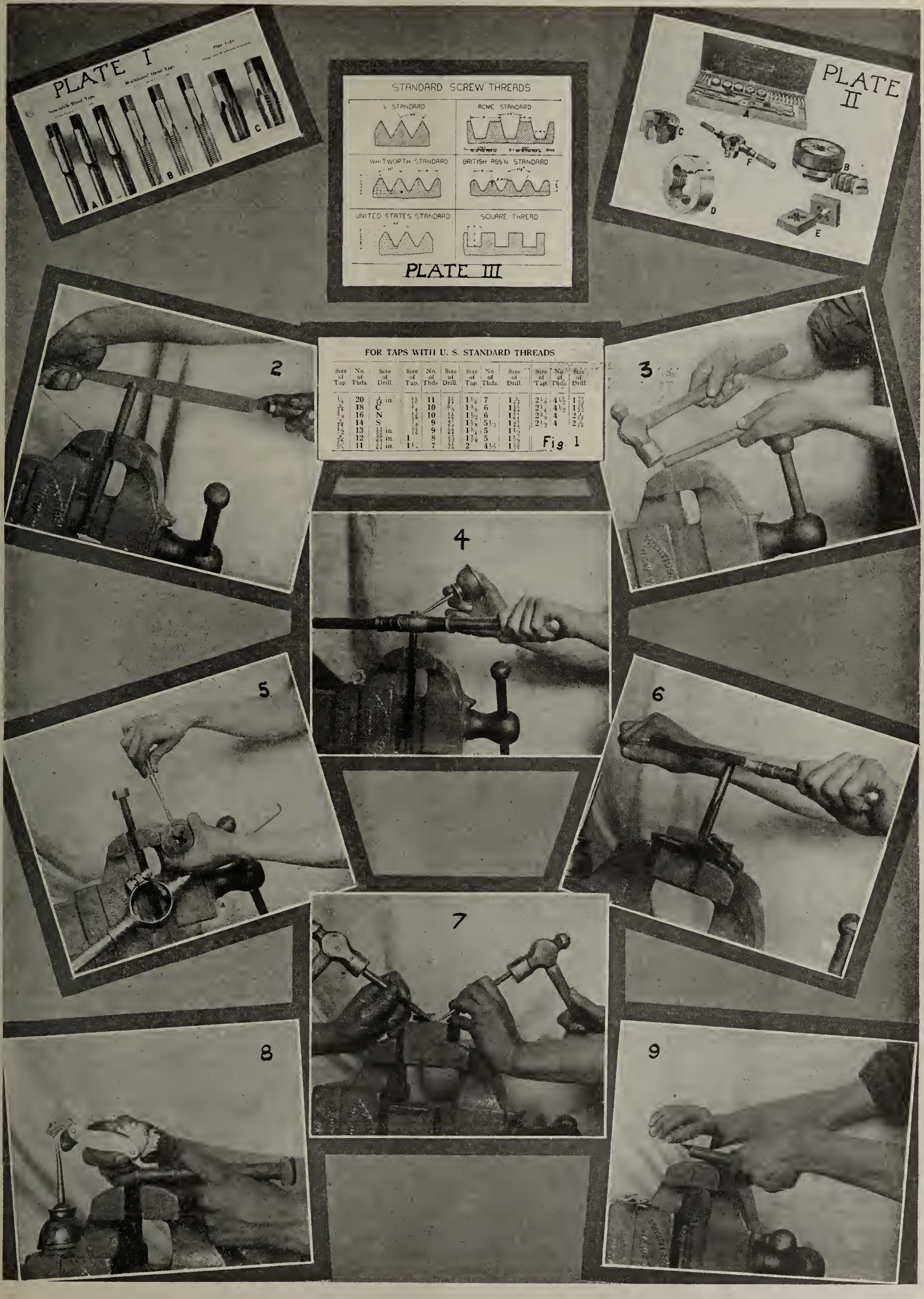
If a hole is to be drilled for tapping, it is important that the proper size drill be used. This can be determined by finding the diameter of the tap or bolt at the bottom of the threads or by referring to a chart of tap drill sizes. (Fig. 1.)

Rounding the End with the File, Fig. 2. In threading soft steel by hand with the hand stock and die, the end of the material to receive the thread should be rounded, that is, the sharp corners should be removed at an angle of about forty-five degrees. This can be done by using the coarse or bastard file, as shown in this view.

This operation is an important one, as it permits the easy starting of the die and also insures its careful usage. It will also be found that the die can be started easier and straighter after this operation has been performed.

HAMMER CAN BE USED TO ROUND END OF STOCK

Rounding the End by Hammering, Fig. 3. Another method that is used to round the end of stock before cutting the thread, is that of using the hammer, as shown in this view. The uneven end is rounded by striking medium blows with the hammer on the end of the stock and holding it in about the same position as if you intended to draw it to a point. It is not necessary to heat the stock to perform this operation.



FOR TAPS WITH U. S. STANDARD THREADS

Size of Tap	No. of Thds.	Size of Drill.	Size of Tap.	No. of Thds	Size of Drill.	Size of Tap.	No of Thds.	Size of Drill.	Size of Tap.	No. of Thds.	Size of Drill.
$\frac{1}{4}$	20	$\frac{3}{16}$ in.	$\frac{11}{16}$	11	$\frac{37}{64}$	$1\frac{1}{4}$	7	$1\frac{5}{64}$	$2\frac{1}{8}$	$4\frac{1}{2}$	$1\frac{27}{32}$
$\frac{5}{16}$	18	C	$\frac{3}{4}$	10	$\frac{5}{8}$	$1\frac{3}{8}$	6	$1\frac{11}{64}$	$2\frac{1}{4}$	$4\frac{1}{2}$	$1\frac{31}{32}$
$\frac{3}{8}$	16	N	$\frac{13}{16}$	10	$\frac{11}{16}$	$1\frac{1}{2}$	6	$1\frac{19}{64}$	$2\frac{3}{8}$	4	$2\frac{1}{16}$
$\frac{7}{16}$	14	S	$\frac{7}{8}$	9	$\frac{47}{64}$	$1\frac{5}{8}$	$5\frac{1}{2}$	$1\frac{25}{64}$	$2\frac{1}{2}$	4	$2\frac{3}{16}$
$\frac{1}{2}$	13	$\frac{13}{32}$ in.	$\frac{15}{16}$	9	$\frac{51}{64}$	$1\frac{3}{4}$	5	$1\frac{1}{2}$			
$\frac{9}{16}$	12	$\frac{29}{64}$ in.	1	8	$\frac{27}{32}$	$1\frac{7}{8}$	5	$1\frac{5}{8}$			
$\frac{5}{8}$	11	$\frac{33}{64}$ in.	$1\frac{1}{8}$	7	$\frac{61}{64}$	2	$4\frac{1}{2}$	$1\frac{23}{32}$			

Fig 1

Cutting the Thread with the Die, Fig. 4. Dies are divided into two classes—the die required to pass over the thread several times in the cutting of the finished thread and the die that produces a finished thread in one cut.

In the latter class there are adjustable, spring, and solid dies. They are made from tool steel and tempered and are very hard. A die can be sharpened by grinding back the front face of the cutting teeth or chasers.

The adjustable and spring dies are the best style suited for general repair work. The die block is held in a die stock when cutting a thread. One die stock is sufficient for several sizes of dies. It is not good practice to use a standard size die to cut threads on stock that is rolled 1/32 over size.

HOW TO CUT THREADS

To cut the thread the stock is placed in the vise with the rounded end up. The die is placed on the bar and with a downward twisting or turning motion it is forced on the stock, cutting the thread. After two or three turns forward the die should be given a slight turn backward. This permits the removing of the cuttings and allows the oil to find its way to the points of the cutting teeth of the die.

If a full thread up close to a shoulder is desired, the die is turned over and the cutting operation is continued up to the shoulder. Dies are made for right or left hand threads. When using a left hand die it should be turned counter clockwise.

Adjusting the Die, Fig. 5. When cutting a thread with an adjustable or spring die, the size of thread should always be tested with a standard tapped nut. The die can be adjusted, as shown, by using a screw driver.

The designs of adjustable dies are such that this adjusting is simple and can be made very quickly. The adjustable die can be altered as much as 1/32 over or under the size marked on the die. The spring die will adjust about 1/32 over or under. It is not good practice to extend this adjustment more on this latter type of die.

USES OF VARIOUS TAPS

Tapping a Hole, Fig. 6. The tap is a tool used to produce internal threads. Hand taps are listed in sets, three taps comprising a set, the taper plug and bottom. The taper tap is best suited for starting tapped holes. It can not be used, however, for completing a job unless it will pass clear thru the work. The plug tap makes a full thread nearly to the bottom of a hole. It has the first three teeth tapered off. The bottom tap is used to tap a full thread to the bottom of a hole. It should be used after the plug tap.

The plug tap is the best style for all around work. It must be understood that to get a hole tapped proper size it is not necessary to use all three of the taps in a set. In this operation the tapping position is shown. The secret of proper tapping is to equalize the pull on the handles of the tap wrench.

PROPER LUBRICATION REDUCES BREAKAGE

Removing a Broken Tap, Fig. 7. The breaking of taps can be reduced greatly by using proper lubricant. When a tap is broken near the surface it can easily be removed by driving on both sides, as shown in this operation. By doing this, the tap is not wedged against one side of the hole as when using one drift, but the tap is forced to rotate.

Another method of removing broken taps is by heating the part containing the broken tap in a forge fire or with a gasoline blow torch, thus softening the steel tap. It is then drilled out.

Injecting into the hole a solution of nitric acid (one part acid to five water) has also proved very effective. The action of the acid on the steel loosens the tap and it can then be backed out by using a drift punch or a pair of pliers. The remaining acid should be washed from the hole.

HOW TO FIND NUMBER OF THREADS PER INCH

Finding Number of Threads Per Inch with the Screw Pitch Gage, Fig. 8. To find the number of threads per inch on a bolt or in a nut the screw pitch gage is used. This gage has a number of thin blades on which are cut two or more teeth which correspond to the number of threads per inch, which is stamped on the blade. By comparison of the threads on the bolt with a selected blade from the screw pitch gage, the exact pitch of the bolt can be determined.

Finding Number of Threads Per Inch with the Rule, Fig. 9. On some of the coarser threads the rule is used to find the number of threads per inch. This is not an accurate method, but it proves very helpful in finding thread pitches.

Many times in fitting up the ½-inch bolt with nuts it is found that the nut will not screw on the thread, yet the diameter indicates correct size. By measuring the threads per inch on the bolt and in the nut you may find a thirteen thread nut and twelve threads per inch on the bolt. There are two standard threads for ½ inch—the twelve and thirteen threads per inch.

* * *

Correcting Misquoted Prices

In the endeavor to keep the price list of current quotations on building materials up-to-date and accurate at all times, *Brick and Clay Record* finds it difficult to go along without having mistakes creep in at some time or other. This is what happened in our last quotation of current prices, and *Brick and Clay Record* desires to correct the quotations at this time.

The quotation for common brick in Toledo was given as $30.00 delivered on the job. The correct figure as regards Toledo, however, is $18.00 per M for common brick delivered at the building. This is $1.00 less than the price for this commodity a month ago.

In Columbus, Ohio, the present delivered on the job price for sand-mold brick is $20 and for shale brick $21.00 to $21.50 delivered on the job. This makes the price for sand-mold brick $17.50 at the yard and for shale brick $18.50 to $19.00 at the yard. The last issue of *Brick and Clay Record* quoted the price of common brick delivered on the job in Columbus at $28.00 instead of the above figures.

* * *

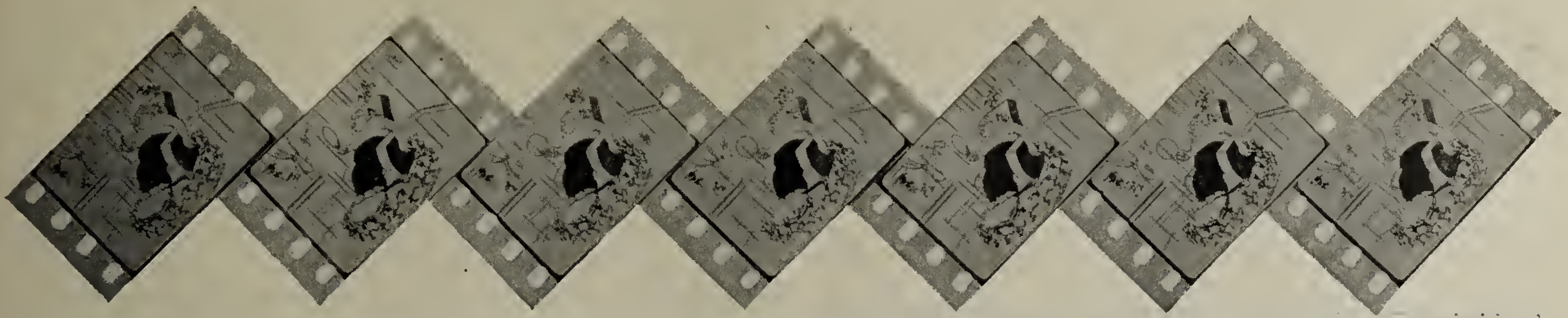
Chamber of Commerce Meets at Atlantic City

Of general interest to all business men is the announcement of the annual meeting of the Chamber of Commerce of the United States to be held at Atlantic City, N. J., April 27 to 29. Problems of distribution will be discussed by the new department of the Chamber known as the Domestic Distribution Department. Important among these is the problem of better marketing facilities. Education will have a prominent place on the program of the convention and both city and country schools will be thoroly discussed. An interesting part of the discussion at the meeting will be the tariff questions which have aroused considerable interest here of late.

* * *

Prepare Uniform Coal Contract

After a considerable amount of time the Fuel Committee of the National Association of Purchasing Agents has prepared a coal contract suitable for use in any industry. In order not to overlook any important details in the formulating of this contract the committee conferred with a number of leading producers of the country. The contract form has been prepared as a convenience to members of the association whose requirements it will meet.



Here Are the "Little Heat Devils" Making Things Lively and Homelike In the Ordinary Wood Constructed House. Hollow Tile Keeps Them Out and Makes Live Worth Living.

HOLLOW TILE REELS THRILL

Humor and Hard Sense Blend in Telling Film Presentation of Sales Values of Popular Material—"Little Heat Devils" and "Jack Frosts' Chilly Children" Meet Tragic Waterloo

THE Hollow Building Tile Association is completely up-to-date in its advertising methods. It's latest development in publicity is in the form of a two-reel movie film produced for the association by the Rothacker Film Co. It takes unromantic hollow tile and so presents that product in picture form that for thirty-two minutes those who have the privilege to view the picture are held alert with intense interest.

This film is being operated all over the country thru the efforts of J. S. Sleeper, advertising manager, of the Hollow Building Tile Association. Already it has been shown at numerous building supply dealers' conventions, prominent among those being the National Builders' Supply Association meeting in Chicago, February 21 and 22, of this year.

TO BE SHOWN TO VARIOUS GROUPS

The picture has a busy career ahead of it. First it will make the rounds of association members. Next a tour of chambers of commerce, rotary clubs, etc. Needless to say it will be among those present at various builders' conventions. With one of the De Vry suitcase projection machines, the film can be shown any place where connection can be made with an electric light socket, and the picture will be exhibited before Y. M. C. A.'s, high school classes and at farmers grange meetings. Eventually it may be booked over a circuit of "regular" movie theatres.

The first scene of the picture is Prizma photography which shows hollow building tile in natural colors. Then a close-up view of a tile, emphasizing the Mastertile Trademark. Here a sub-title says, "MASTERTILE—the Trademark of the Hollow Building Tile Association and your guarantee of a product made in accordance with association standards."

Then the film takes up the manufacture of hollow tile. Panorama views of typical plants are shown. The clay is removed from nature's treasure chest. The raw material is ground, mixed and finally comes out of the die shaped. It is cut into length, conveyed to the drying room and then burned in the kiln. There are several excellent close-up views of the fire burning the tile. At this point sub-titles emphasize the fireproof qualities, explaining that tile is burned at a heat that would melt iron.

HOLLOW TILE KEEPS OUT HEAT

After the audience has seen tile manufactured there comes an animated drawing, or film cartoon, which puts over the insulation properties of hollow tile. First the animation drives home the fact that the air spaces in hollow building tile are non-conductors of heat in summer. In the cartoon a hollow tile house and an ordinary house are in the foreground. Up in the sky "old Sol" frowns menacingly and blows his breath at the two houses. His breath at first seems to be a cloud traveling toward earth. As the cloud comes close the audience sees that it is made up of a myriad of little figures—"heat devils," armed with forked spears and adorned with forked tails. The "heat devils" dive thru the walls of both houses and disappear. A scene inside the ordinary house reveals the "heat devils" in a victory dance around a sweltering house wife. A scene inside the hollow building tile home shows the house wife perfectly comfortable and nary a "heat devil" in sight. To tell the audience what became of all the "heat devils" which were seen to dive thru the hollow tile outer wall, there flashed upon the screen a cross section of a tile wall. The "heat devils" dive thru the outer wall all right but when they encounter the air spaces they disappear in puffs of smoke. Animated thermometers register the result—106 outside, 72 inside.

COLD CANNOT PENETRATE TILE WALL

Then the animation scene changes to winter and Jack Frost blows a cloud of "chilly children" toward the two houses.

A Direct Contrast from the Pictures at the Top of the Page. In This Home, Built with Hollow Tile Walls, Everything Is Comfortable the Year Round. The "Heat Devils" Can Not Enter, Neither "Jack Frost's 'Chilly Children.'"

Similarly, as in the summer scenes, the audience is impressed with the fact that tile air spaces form an insulation barrier which the cold of winter cannot penetrate.

SHOWS ACTUAL BUILDINGS OF TILE

Next comes glimpses of typical homes built of hollow tile, showing a wide variety of external appearance.

A living room set was built in the Rothacker Chicago studio for the scene that follows the residence views. Two cute pajama-clad kiddies tiptoe into the living room on Christmas morning. They rush for the toys on the glittering tree. Here sub-titles make note of two facts: First, that hollow tile walls have no cracks or crevices to let in draughts and there is no danger of the children catching cold by playing on the floor.

One of the Scenes Taken from the Hollow Tile Movie Films. It Shows the Kiddies Playing on the Floor and is Meant to Impress the Protection Hollow Tile Walls Afford in Keeping the Entire Rooms Warm, Even the Floors.

Suddenly the scene changes. It shows the kiddies looking out the window at the fire department clanging along the street to rescue some burning building before the flames completely demolish it. As they watch the building burn, one exclaims to the other, "Aren't you glad we live in a hollow tile house which can't burn?"

The last series of scenes portrays a number of various structures built of tile—skyscrapers, factories, apartments and farm buildings. It closes with Prizma natural color views of farm buildings on the estate of the late Jacob Schiff.

* * *

Ohio Brick Men Hold Important Meeting

A most important meeting of the Ohio division of the Common Brick Manufacturers Association of America was held at the Deshler Hotel, Columbus, April 12, with approximately fifty manufacturers of common brick from many sections present. Construction of what is known as the "Ideal Wall," was demonstrated at a downtown corner where an eight inch and twelve inch wall was laid up for the inspection of the visitors.

Charles Bryan of Detroit, the national president, was present and made a talk in which he called attention to the advantages of the new system of laying brick for dwellings and smaller structures. The association is unequivocally back of the new wall which has been thoroly tested and is used extensively in California and to some extent in Atlantic City, N. J. One of the first actions of the convention was to adjourn in order to inspect the new type of wall.

Ralph P. Stoddard of Cleveland, secretary-manager of the association, gave an interesting talk in which he touched on legislative matters. A general discussion followed.

* * *

A Correction

In the March 22 issue of *Brick and Clay Record* appeared an item which said that motion pictures were being shown of the plant of the Rock Products Co., at Oregon, Ill. This is an error, the picture was a movie of the plant of the National Silica Co. of Oregon, Ill. The item further states that A. G. Minehart, Jr., is the treasurer and general manager of the Rock Products Co. We are informed that Mr. Minehart had charge of the filming of the picture, and is connected with both the National Silica Co. and the Rock Products Co. in a way, but has full charge of the Rock Products Co., whose plant is at Toledo.

* * *

A. C. S. Summer Meeting at East Liverpool

Within a few weeks, a preliminary start will be made on plans for the entertainment of the summer meeting of the American Ceramic Society at East Liverpool, Ohio. Thomas A. Sant, dealer in all kinds of ceramic clays, is very much interested in this work, and already has formulated a number of suggestions which he will lay before the general committee ere long. It has been many years since the American Ceramic Society assembled in the East Liverpool district, and many improvements have been noted since then. These, of course, will be closely observed by the East Liverpool visitors. It is likely that headquarters will be established in the Elks' Club, which is the headquarters for all pottery buyers visiting the East Liverpool market.

* * *

Canadian Clay Production in 1920

Clay Products		Quantity	Value
Brick, common	M	315,110	$4,868,958
Brick, pressed	M	81,776	1,756,760
Fireproofing	tons		391,216
Hollow building block	M		284,163
Kaolin	tons	683	15,022
Molded and ornamental terra cotta			120,875
Pottery			207,410
Refractories, fire clay, etc.			517,335
Sewer pipe	tons	58,827	1,549,090
Tile, drain	M	16,061	619,442
Sand lime brick	M	46,102	718,735

* * *

Iowa Road Work Progressing Rapidly

Contracts totaling over a million dollars for the month of March have been let by the Iowa Highway Commission for tiling, grading and gravelling Iowa highways. The contracts were let at prices considerably below those prevailing last year.

The cost of grading ranges between thirty-six and forty cents a yard as compared with seventy-five and ninety cents last year. In the gravel work, loading, hauling and spreading is costing sixty-five to seventy cents for hauling a load a mile, with an additional overhaul charge of seventeen to eighteen cents, while last year the rates were between $1 and $1.25 with an overhaul of twenty-five cents. Tile drainage work is being done for fifteen cents per lineal foot on six inch tile work and this is half last year's price.

Where there is any paving to be done work will progress rapidly as contractors report that materials are all on hand. There is no labor scarcity evident and contractors can secure all the men wanted for highway work.

CARE *in* USE *of* FIGURES VITALLY NECESSARY NOW

Improper Use of Figures May Lead to Deception Warn Two Prominent Clay Product Manufacturers

I MADE A VISIT to the plant of my old friend, F——, a few days ago and in talking over the matter of costs and business, found him very jubilant over the fact that he was making brick at very low prices today, consequently was figuring on quoting some prices which I thought were hardly in line with the experience of other manufacturers.

After considerable discussion, he told me that in the last quarter of last year, he had just broken even on account of the high price of coal and stated that his burning costs were $8.20 per thousand at that time and he had figured on a selling price that should have netted a profit and could not understand why it was not there.

BOOK PROFIT NOT THE SAME AS ACTUAL PROFIT

I suggested that we check over the figures and found that he had a net machine production of 3,416,780 brick in the last quarter, but in going over the figures we found that only 2,796,540 were burned, so that where he had figured a burning cost on a machine production, his actual burning cost was $11.48 per thousand or $3.28 higher than he figured, and this accounted for the profit he had made but could not find.

This so interested him that he thought possibly a little comparison on the present year's figures would be worth while. For the months of January and February, he was figuring a burning cost of $4.80 based on the machine production of 1,840,600, as the plant was running continuously, but the actual fact was that only 1,206,540 brick were burned in that time. On the basis of machine production, the burning costs for the two months were $4.80 per thousand, whereas the cost for actual brick burned was $7.32 or a difference of $2.52.

GLAD TO BE SHOWN ERROR OF HIS WAYS

After satisfying himself that the above figures were correct, this man stated that he was mighty glad we had had a discussion and said he could see where he was putting out quotations that meant a loss instead of a profit and he set about immediately to correct the same.

There is reason to believe that this is one manufacturer who will not be accused of making a price that is too low, for he, at least, has a fair idea of what the costs are and is no longer fooling himself.

It would be interesting to know how many manufacturers are figuring costs in a manner that does not give them a true indication of what is happening. The above is based on facts but the figures are not exactly those that were turned in. This should be of interest to every manufacturer and it shows the necessity for figuring department costs rather than net production cost, for this is the only way we can avoid fooling ourselves.

FIGURE YEAR'S OVERHEAD IN SEASON'S OUTPUT

Prices are being made today for finished production which cannot show a profit based on the present selling prices due to misunderstanding of cost.

Along this line, the manufacturer would be wise to bear in mind that practically three months have expired, during which time probably ninety per cent. of the brick plants of the country have been idle with the overhead charges, interest and other costs going along just the same as if the plant was running and these costs must be pro-rated over the period the plant is actually producing thruout the year.

The manufacturer who sits down and figures his exact costs, not considering questions like the above, cannot expect to break on the right side of the ledger at the end of the year and we are looking forward to that glorious day when uniform methods of accounting will be in effect in all of the clay plants of the country so that when one manufacturer talks with another, he will know he is talking about exactly the same things in exactly the same way.

THE FATAL AVERAGE

By G. W. Greenwood

IN A RECENT ISSUE of *Brick and Clay Record,* we find a comparison of the cost of lumber for the erection of a two-story mill in 1914 with the prices quoted on the same material in March, 1921. The author then computes the increase in price on each item, seventeen in number, and divides the sum total of the percentages of increase by seventeen, getting 117.3 per cent. as the "average."

The tendency among brick manufacturers, even in high places, to misapply the law of averages merits calling attention to such an oversight.

For example, the prices shown for 66,000 bd. ft. 2x6 No. 2 Y. P. D&M are $16.50 and $37.00, an increase of approximately 124 per cent.

The prices shown for the next item, 233,000 ft. 3x6 No. 1 Y. P. D&M are $19.00 and $38.00 an increase of 100 per cent.

CORRECT WAY TO FIGURE AVERAGES

So far, everything is correct. But it does not follow that the average increase is 112 per cent. for these two items taken together.

The only correct procedure is this:

Example 1

66,000 ft.@$16.50	$ 1,089.00
233,000 ft.@ 19.00	4,427,00
	$ 5,516.00

Example 2

66,000 ft.@$37.00	$ 2,442.00
233,000 ft.@ 38.00	8,854.00
	$11,296.00

This gives an increase in the cost of these two items taken together of approximately 104.8 per cent., not 112 per cent.

This oversight does not detract from the force of the arguments in the article referred to, but there are cases where the same fallacious methods make a great difference to the brick manufacturer.

For instance, it is the practice at times to take the entire output, nine inch equivalent, where a plant manufactures fire brick and shapes, and divide the operating cost by this output, with the hope of getting a true "average" cost of production. The error is serious.

BE CAREFUL OF "AVERAGES" WHICH MEAN NOTHING

The same manufacturer may take the total nine inch equivalent of the brick sold during a month, and divide this into the amount received for them, so as to get the "average" selling price. The result is meaningless.

It is possible for the selling price of every kind of brick shipped during a month to be less than the selling price of each corresponding class of brick for the previous month, and at the same time the "average" for the second month may be higher than that of the first month. In such a case, the satisfaction derived from seeing the "average" selling price go up would rest on a decidedly unsatisfactory footing.

The average brick manufacturer is better able to make brick than he is to figure the costs and selling prices. This is fortunate for the users of his material, but is unfortunate for himself.

N. Y "Own Your Home" Show to Be Success

The "Own Your Home" exposition in New York City, at the Twenty-second Regiment Armory, will be under way as this issue of *Brick and Clay Record* is published. Every indication points to a big success and no expense has been spared to make the show the best and most comprehensive that has yet been held in the city. It will run from April 16 to 30, and will utilize the entire main floor armory space. A large number of exhibitors will be representative of practically every branch of the building industry.

LAYING DRAIN TILE MADE EASY

SAM COINER thought that laying tile was too complicated a job for the average man, and therefore hired a ditching gang to tile his farm.

After the surveyor had finished his job, the ditchers canceled their contract. Sam could not find other men to do the work, and, it being a comparatively slack time—between harvest and fall seeding—he decided to do the work himself with the help of his hired man.

Sam found the work was not complicated, but quite simple. How he managed may be of help to others who may be unable to get ditchers, or who prefer to do their own small jobs of tiling, after first having a surveyor run the level. Quite a few people own and run their levels, but unless there is a great deal of use for a level, it is best to depend on the surveyor, who is more experienced and can do the work quickly. Here is how Sam did the work, as nearly as I can quote him:

SURVEYOR FURNISHES MARKS

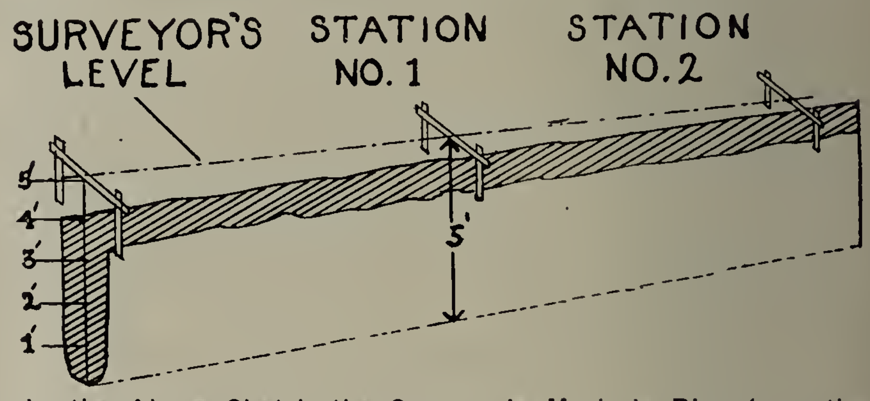
"The sketch shows the small stakes, called hubs, which the surveyor placed every 100 feet apart along the lines where the tile ditches were to be dug. The station at the outlet is station 0, the next is station 1, next station 2, and so on. The surveyor furnished specifications telling how deep the tile must be below the top of the hub at each station to get the required fall. Then I placed the cross-bars, made of lath, at a distance above each hub equal to five feet minus the depth of the ditch. That is, if the bottom of the ditch is three feet and a half below the top of the hub, as at station 0, the top of the cross-bar will be one foot and a half above the top of the hub.

"Using an ordinary farm level, I nailed the cross-bar at station 0, just five feet above the bottom of the ditch, using the foregoing calculations. Then I nailed the cross-bar in place at station 2, using the surveyor's specifications for the depth. The cross-bar at station 1 was nailed into place by very careful sighting between the other two stations.

VARIOUS TOOLS USED TO DIG DITCH

"The cross-bars being placed, we began digging the ditch. There is quite a variety of tools usually used by ditchers for convenience in digging, and these we obtained. An ordinary spade and one called a skeleton spade were used for taking out the first spade length of dirt, about twenty inches deep. Skeleton spades are used in soil that sticks to the solid spades, but cannot be used for soil that crumbles. A long-handled spade was used for scooping out crumbs from the first spade. A long-bladed spade and a skeleton were used for digging the bottom spade length of the ditch. The crumbers—very small-bladed spades—varying for different sized tile, were used for cleaning out the bottoms of the ditches, leaving a dish-shaped bed for the tile to be laid in.

"To get the bottom of the ditch uniform, so there would be no dips or hills, a stick five feet long was set in the ditch as the bottom was finished with the crumber. To use this, sight over the top of the stick; when the top of the stick is exactly in line with the cross-bars, the ditch is the right depth.



In the Above Sketch the Surveyor's Mark is Placed on the Posts and the Cross-Piece Fastened High Enough Over the Mark so That the Distance to the Bottom of the Trench is Five Feet.

"Another way to keep the right depth is to stretch a string, and make this string the guide line for the top of the five-foot measure, instead of sighting. In some cases, where there is running water, no sighting or measuring is necessary; but it is best not to take any chances. Do the job right.

MAKE ENDS FIT SNUGLY

"After the ditch is finished, use a tile hook for laying the tile. It is important to have the ends fit snug to keep out dirt. If the ends can not be made to fit by turning the tile around, cover the joints with bits of tile. If the fit is too poor, reject the bad tile. In tight clay soils joints are sometimes made too tight to let the water in freely. The remedy is to leave from one-eighth to one-fourth inch of space at each joint, and cover with cinders or inverted pieces of sod.

"As soon as the drain is laid, bind the tile with a light covering of earth to protect them from injury. Postpone the re-

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Editor's Note:—The purpose of printing this article is to give manufacturers of drain tile some good talking points in their sales arguments. This idea can be used in the tile manufacturer's advertising literature and will undoubtedly prove of great sales value and of interest to the farmer.

mainder of the filling until the drain has been tried out. By taking out a tile every fifty feet for a test, the flow of water can be seen if the drain is working properly, and imperfections are thus easily located.

"Fill the ditch completely as soon as you are sure the drain works properly. Using a plow, the work can be done quickly with a team. Have a long evener so that one horse can walk on each side of the ditch. Every drain on the farm should be indicated on a map of the farm. Such a map is of great value when selling a farm, or when adding to the draining system.

DRAINAGE IMPROVES LAND

"Draining is necessary on low, flat and swampy fields; on the bottom or bench land occasionally overflowed or containing seepy spots; on extremely flat land and on washy soils wherever there is much rainfall.

"Proper drainage improves the soil in many ways. It removes surplus water and admits air. It enables roots to go deeper. It aids in pulverizing the soil. It increases the drought resistance of soils. It makes manure and decaying matter available as plant foods; and it makes the soil warm up early in the spring.

"The most economical time of the year to drain is during the winter months when the land is not growing any tilled crops. Also, at this time of the year farm-hands and teams are not so busy, and men may be employed easier and at a lower daily wage. This is important."

* * *

South Again Starting Active Construction

Miscellaneous construction projects in the South for the week of April 1 totaled $29,503,599. This total is slightly less than that for the preceding week which was $31,781,582, and somewhat in excess of the week before that when the total reached $25,586,062. Contracts actually awarded during the week reach a total of $4,746,530. Contracts to be let will involve a total expenditure of approximately $23,757,069, including a land development project which is contemplated for North Augusta, Ga.

* * *

The Magnesite Industry in 1920

The production of magnesite in the United States in 1920 increased ninety-four per cent. in quantity over that of 1919. The entire output was made by two States, California and Washington. California mined sixty-three per cent. more magnesite in 1920 than in 1919 and more than eight times as much as it mined seven years ago. Washington increased its production 109 per cent. over that of the preceding year, making by far the largest output it has yet made. According to the United States Geological Survey, Department of the Interior, the total production of magnesite in the United States in 1920 was 303,767 short tons, which was valued at approximately $2,748,150.

Most of the output of California was calcined and used as plastic material, only a small part being natural ferromagnesite used as a refractory lining of steel furnaces on the Pacific coast. On the other hand, practially all the magnesite mined in Washington was dead-burned into synthetic ferromagnesite and used as a refractory lining of furnaces and smelters.

The largest producers in California were the Tulare Mining Co., and the Sierra Magnesite Co., at Porterville; the White Rock mine, operated by Frank R. Sweasy, in Napa County, and the property of the Western Materials Development Co. on Red Mountain, operated by C. S. Maltby.

C. B. M. A. Still Growing

More new members for the Common Brick Manufacturers' Association of America have been enrolled, according to announcements from the organization. Among them are the Danville (Ill.) Brick Co.; Acme Brick Co., Fort Worth, Tex.; Festus (Ohio) Pressed Brick Co.; C. P. Mayer Brick Co., Bridgeville, Pa.

* * *

Lots Sold Below Cost

The Chamber of Commerce campaign to provide houses is meeting with success. Hundreds of vacant properties, ranging in price from a few hundred dollars to thousands of dollars, have been offered to the chamber to aid the building campaign. Many of the lots are offered below cost. Building contractors also have entered into the spirit of the campaign and have offered to cut profits so that building can be resumed. But the effort to have the various trades unions accept a reduction in wages has met with refusal from the unions, who declare that they are doing all that can be expected when they do not ask for an increase.

* * *

Ohio Paving Brick Men Meet

The annual meeting of the Ohio Paving Brick Manufacturers' Association was held at the Deshler Hotel, April 13, with all member firms represented. Two new members were received, they were the Hisylvania Coal Co., of Columbus, and the Collinwood Shale Brick & Supply Co., of Cleveland, an offshoot of the Medal Paving Brick Co., with H. C. Moatz as manager. Officers elected for the coming year are: J. L. Murphy, of the Nelsonville (Ohio) Brick Co., president; F. L. Manning, of the Peebles Brick Co., Portsmouth, vice-president; James R. Marker, secretary, and H. C. Moatz, treasurer. The entire corps of officers was re-elected.

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Ohio U. Ceramics Classes Small

The Ohio State University at Columbus, Ohio, has the only department of ceramic engineering in the country, authorized to confer the degree of ceramic engineer, according to the officials of the university.

According to Arthur S. Watts, professor in the course, no attempt is made to develop manual dexterity, as the course is taught merely from an engineering standpoint.

Requirements for the course are exceptionally high and the largest class being given the degree of bachelor of ceramic engineering has been fourteen. The average size of the graduating class for a number of years has been six.

* * *

Will Campaign for Brick

A campaign to promote the use of brick is being considered by the Connecticut Brick Manufacturers' Association. The subject was discussed at a conference at New Haven, Conn., recently at which manufacturers from all sections of the state were present.

* * *

Freight Rates Are Reduced

Effective April 30, 1921, there will be a reduction in freight rates on brick, clay, and clay products in carload lots. The reduction will be effective from stations on the Western Maryland Railway, and Cumberland & Pennsylvania Railroad, to Eastern, New England, Southern, and Canadian Points.

The BUILDING SITUATION *in the* EAST

THE APPROACH OF SPRING shows marked tendencies of a real revival in the construction industry, with the labor situation the one distressing factor at the present time. There is a decided increase in home building thruout the eastern districts and this has brought about an equal advancing call for building materials. The price situation is good, or at least satisfying the prospective builder, for the great hesitancy shown in months past is passing, and there is a strong inclination afoot to build NOW.

With numerous wage agreements between employers and employes in the construction field expiring in April and May, the past fortnight has evidenced serious discussions as to wage schedules for the coming year. Contractors and others hold that a reduction is necessary if building is to assume any important status at all during the coming months, with the assertion that intending builders will not place their operations under way at existing high wage levels. Labor, on the other hand, is holding out for a continuance of present scales, and the result is a deadlock in certain quarters, with a building strike confronting the communities.

RESIDENTIAL WORK LEADING

Building material prices show good stability at present levels, and the recession in this direction during the past few months has gone far to encourage activity in construction circles. With residential projects taking the lead at the moment, it is expected that industrial work will develop to a good point not later than midsummer, with a resulting concerted movement to bring the building industry into its own again. Here is the way the situation sizes up at the present time:

New England: After a fortnight of inactivity in construction work at Boston and other prominent New England cities, due to a strike in the building trades, conditions are apparently righting themselves. Practically every industrial center has felt the effects of the reaction, including Worcester, Lawrence, Holyoke and Springfield. In the first noted city employers are making an effort to reduce the present wage scale by twenty per cent., and a like figure is being urged at Lawrence; in this latter city over 2,000 men have been out, dating from the first of the month and sixty jobs held up. At Holyoke, a fifteen per cent. wage decrease has been suggested, which would give bricklayers, tile-setters, masons, plasterers and affiliated lines ninety cents an hour, cement finishers, eighty-five cents, and carpenters, painters and other artisans, eighty cents, with common labor at fifty and fifty-two and one-half cents an hour. The union up to the present time has rejected the new figures. At Greenfield, Mass., it is proposed to make a number of similar reductions, bringing the average scale from seventy-five to ninety cents an hour.

MOVEMENT FOR OPEN SHOP

The building strike at Boston, referred to in previous issues of *Brick and Clay Record* will be settled by arbitration. The United Building Trades Council has accepted a proposal of the State Board of Conciliation and Arbitration for a consideration of the dispute. In the meantime, the men will return to work at the rate of $1 an hour, as demanded, pending the adjustment. Approximately 16,000 men have been affected by the tie-up.

There is a definite movement for the open shop in the building trades at Boston and vicinity. A controversy has been waged between employers and union workers for about five months past, in all, and with the dissatisfaction growing and not abating, the open shop plan seems inevitable. The local chamber of commerce places the responsibility for the stagnation of building in the city to labor waste due to union working rules and conditions, inefficiency of labor, and high costs of building materials. The committee in charge points out that building interests and labor might, at any time, enter into an agreement that would leave the public without consideration, and suggests that the public should have a voice in the matter.

MATERIAL PRICES DECLINE

Building material prices show decline in a number of instances during the past fortnight in the Boston district. Hudson River brick is now selling for $24 a thousand delivered, as against a previous figure of $26; Connecticut production is still being quoted at $27. Face brick maintains at $50 and $60 a thousand, according to selection, the higher figure being for ruff texture varieties. Fire brick is being listed at $80 and $90 a thousand, the lower price being for No. 1 standard, and the higher figure for best grade material. There is no change in the prices of hollow tile and partition blocks. Fire clay holds at $30 a ton, delivered. Standard sewer pipe is now quoted at thirty per cent. off list, and double strength material, at fifteen per cent. off. Flue lining is carrying a discount of thirty per cent. off list at the present time, and wall coping, twenty-five per cent.

New York: New York City is striking a real gait in the line of residential construction and the outlook in this direction is very encouraging. If industrial and other operations come along at the same pace in the nearby spring and summer months, no factor in the local industry will have any cause for complaint. As it is, there is less and less reason for pessimism as the days go by.

Since February 25, when the tax exemption ordinance at New York went into effect, there has been an increase of seventy-six per cent. in home building in the city. The construction of large apartment houses, which has been dormant for many months past, has begun with a vim, and this form of work is making good calls on local dealers for burned clay and other fireproof products. Smaller housing work, also, is going forward, and unquestionably is holding the center of interest here at the present time.

PRICE OF BRICK DECLINES IN NEW YORK

Public work at New York is commencing to show pronounced activity, and the leading development in this line during the past fortnight is the decision of the Board of Estimate to arrange for a fund of $52,000,000 for the construction of new schools. The majority of these will call for brick and other burned clay products in large quantities. It is planned to erect a total of forty-eight school buildings for elementary service, several new high school buildings, and a new training school for teachers.

Despite an increasing demand for common brick in all parts of Greater New York from the building material dealers, the distribution from the wholesale quarter is not of the most encouraging status, with the result that a decline in quotations is current, evidently with intent to encourage a dealer buying movement. Present figures are from $15 to $17 a thousand, as against a top figure of $18 a fortnight ago, and these prices are not of any noticeable stability. In full, prices are weak, and the next month, if not sooner, is likely to show lower wholesale quotations.

Brick from the Hudson River districts has been coming into the city in large quantities since the first of the month, and yards, evidently, are disposing of last year's production before starting in on 1921 manufacture. Over fifty cargoes have arrived during the past fortnight, with a total of thirty-five cargoes distributed in different parts of the city in this time; Brooklyn is making the heaviest call for material at the present time, utilizing it for the residential construction which is rapidly on the increase.

WAGES IN BRICK INDUSTRY TO BE LOWERED

The seasonal yards in the Hudson River district are about ready to commence operations for the year's run, but there is seemingly no great hurry to get "the wheels moving." It is likely to be several weeks before there is full resumption in this district. The all-year plants are maintaining production at a good point, and the majority of these manufacturers are viewing the situation with favor.

Brick manufacturers in this section are developing a concerted movement for lower wages for employes. About fifty producers have been in conference regarding the matter, and 1919 wage levels are being considered seriously as the right figures at the present time. This will reduce common labor at the brick yards from $1 to $1.50 a day, with proportionate decrease all along the line. Barge captains, receiving the highest pay of any of the labor interests in the brick handling line, are being approached with a reduction from $165 to $125 a month. Brick unloaders at the New York City end will be reduced from $1 to eighty cents per thousand.

BUILDING MATERIAL PRICES

Prices of building materials at New York are holding well at present levels, with exception in a few instances. Interior partition tile shows a decided decline during the past fortnight; 2x12x12-inch split furring is selling for $180 a thousand square feet, as against a previous level of $220; 3x12x12-inch stock is quoted at the same figure, while 4x12x12-inch is selling for $200 a thousand, delivered; six-inch material has declined from $320 per thousand square feet to $280. Face brick is another burned clay product that is showing a tendency to lower figures, and from $45 to $53 are the popular averages at the present time, rough varieties being securable at the latter figure. Fire brick holds well at a $75 and $80 figure, according to selection. The call for the material is fair.

New Jersey: There is a trend towards improvement in the volume of building work in New Jersey, and March totals bid fair to be passed by the aggregate of the present month. At Newark, construction operations in March totaled $1,620,249, as against $4,026,276 in the same month of last year, and $595,070 in March, 1919. The 1920 figures are abnormal, and include the filing of plans for a number of large buildings, and necessary at that time to come in under an old ordinance, just prior to adoption of new zoning districts. The 1921 March totals are encouraging in the line of housing developments.

LABOR SITUATION

There is increasing activity at Trenton, N. J., particularly in the line of industrial work, and during the past few weeks plans have been filed for a number of projects. The Board of School Estimate at Camden, N. J., has approved of a budget of $1,000,000 for the construction of new school buildings.

The spirit of curtailment in present wage schedules for labor in the building industry is under way in New Jersey, and May 1 will see a change in a number of present scales. At Newark the Building Trades Employers' Association has arranged for a general reduction on the date mentioned, ranging from $1 to $2 a day. Bricklayers, masons and plasterers will receive $9 a day instead of $10; steamfitters and plumbers $8 instead of $10. Hodcarriers and masons' laborers will be slated at $5.60 in place of $7 a day. Bricklayers say that before they will accept a cut a strike will be declared, and other unions are also protesting.

Following the lead of Newark, master builders of Passaic and Bergen Counties are planning for a reduction ranging from ten to twenty per cent. in the wages of building labor. At Perth Amboy and vicinity new schedules are being arranged with a reduction varying from $1 to $2 a day; bricklayers, masons and plasterers will be paid $8 a day instead of $10, and hodcarriers and building labor, sixty-five cents an hour instead of eighty-five cents.

BUILDING MATERIAL PRICES HOLD

While common brick shows a tendency to decline a dollar or two in the different centers of New Jersey, there is no decided effort at forcing lower figures. From $23 to $28 per thousand is the total range. Northern New Jersey dealers are asking from $23 to $25 a thousand for the material, delivered, and higher figures prevail in the southern part of the state. In the Trenton district there is evidence of a decline to about $25. Face brick is holding its own in the line of quotations, with prices ranging from $43 to $60; fire brick is around $75 and $80, with a $90 figure being asked in certain quarters for particularly high-grade material.

Philadelphia: There has been noticeable improvement in construction in the Philadelphia district during the past two weeks, and each day is showing increasing strength in the line of building permits for spring work. While operations for the most part are of small character, the volume is what counts, and this is showing up good. Also, plans are under way for a number of new industrial buildings which will go to swell the totals. Housing operations are still in the minority, altho the erection of forty-seven two-story brick dwellings, to cost $200,000, shows a quickening aspect in this line.

PHILADELPHIA PRICES DOWN

With the reduction of common brick prices to $20 a thousand in the majority of instances in the Philadelphia market, there is a trend in the same direction by other basic commodities. Partitition tile is now quoted at lower figures, and face brick ranges from $38 and $40 upwards. Ruff texture material is higher, running $55 and over. Fire brick is maintaining a $75 figure, with fair call prevailing. Other products, such as sewer pipe, drain tile, wall coping, and so forth, are engaging under a reduced call, and far below normal.

There have been no developments in the labor situation in the building industry at Philadelphia during the past fortnight, and recent discussions have rather quieted down. At Lancaster, a wage cut of from ten to fourteen per cent. was made effective on April 1. Hazleton employers are negotiating for a reduction from eighty-seven and one-half to seventy cents an hour for union carpenters. Master builders at New Castle have reduced all branches of labor from ten to thirty-five per cent.

The Building Construction Employers' Association of Pittsburgh, Pa., has declared its intention of operating on the open shop basis, and the change will be made effective on June 1.

* * *

Mexico a Possible Clay Products Market

Great things are expected in Los Angeles by clay products manufacturers, from the efforts to develop the Mexican and Central and South American Markets. The Pacific Clay Products Co., according to a report, is now preparing to send its products to those countries. The Los Angeles Chamber of Commerce believes that the possibilities of developing a trade in these countries, especially in the Mexican markets, are great. Thousands of buying inquiries on a variety of products, from prospective customers in Mexico have been received by the Chamber of Commerce as the result of junketing trips of the members to that country.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

DEVELOP DESIRE FOR GOOD CHINA

GIVEN A SET of good looking china, any one can have an attractive dining room; for any dining room lives up, involuntarily, to its cups and plates," so says Ethel Davis Seal in an article entitled, "The Decorative Possibilities of Table China" appearing in the April number of the "Ladies Home Journal." The article goes on to show the harmonic relations between the furnishings of the dining room and the china set, discussing the rare possibilities obtainable.

In describing the decorations and furnishings of distinctive types of dining rooms, the article says, "The general success of the rooms in which these sets were used taught home-furnishers that the dining room could be a very happy spot, depending upon its *china.*" Still further on it states, "Black furniture, vivid green pull curtains, of silk or Georgette Crepe, grey woodwork on the same tone value as the paper, a darker grey rug and pewter things about, the vision of this dining room rises in answer as one realizes the decorative possibilities of one more characterful table china, bordered heavily with straight black bands or delicately with a fine black design. All inexpensive these effective china goods. But they taught one a fine lesson that the china used in a dining room affords too great a chance for the important decorative note to be overlooked."

TAKE PRIDE IN AMERICAN MADE CHINA

Americans are too prone to overlook the possibilities of the distinctive feature of china ware. It has often occurred to some that American china ware manufacturers might well consider a campaign to create a better pride on the part of the average American in the beauty of his china ware. This at the present time is being done by one of the nation's leading and most progressive concerns. This concern loses no opportunity to recommend "made in America" chinaware. On another page is shown a half page advertisement that appeared in the April issue of the "Ladies Home Journal" which shows how the Onondaga Pottery Co. of Syracuse, N. Y. is carrying on such a campaign. Furthermore, the pottery company is emphasizing the fact that it is Made-in-America china, and thereby advocating the purchasing of American-made china ware.

On another page of the "Ladies Home Journal" appears a half page advertisement placed by the cooperative agreement of twelve prominent stoneware manufacturers. These manufacturers have cooperatively published a book of cooking recipes containing some of those compiled by the United States government officials. The advertisement copy is written to show the sanitary and preservative features of stoneware, jars, and so forth.

* * *

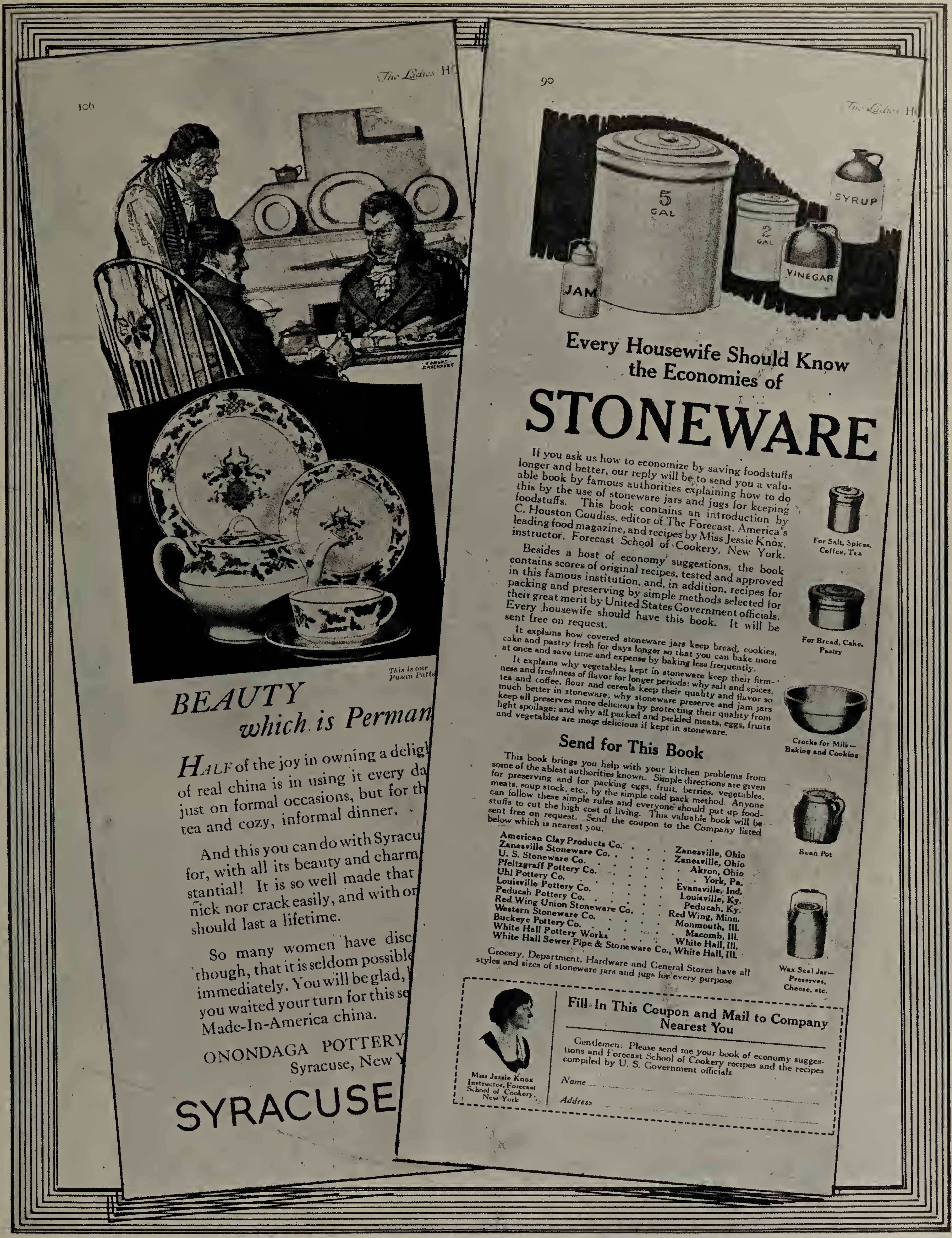
Clay Workers Honor Ceramic School Designers

The New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society held a dinner at the New Packer House, Perth Amboy, N. J., on Friday evening, April 1, in honor of the prize winners and other contestants in the contest held recently under the auspices of the National Terra Cotta Society for a design for the façade of the new ceramic building at Rutgers' College, New Brunswick, N. J. Two cash prizes were offered in the form of a first prize of $200 and second prize of $100. A total of fourteen contestants were entered, the winners being E. W. Moell, Rocky Hill, N. J., and S. R. Audsley, Perth Amboy, both connected with the Atlantic Terra Cotta Co., receiving the first and second prizes respectively.

Charles Howell Cook, president of the Cook Pottery Co., Trenton, N. J., acted as toastmaster at the dinner. There were a number of addresses by men prominent in the ceramic industry in the state, the references covering the growth of the clayworking industry in New Jersey and pertinent facts regarding the new ceramic school and research station, contract for the erection of which is expected to be awarded at an early date.

Abel Hansen, president of the Fords Porcelain Works, Perth Amboy, gave an interesting resumé of the activities of the New Jersey Clay Workers' Association and developments leading up to the new school building at New Brunswick. E. V. Eskesen, president of the New Jersey Terra Cotta Co., mentioned details of the prize contest, and spoke of the great possibilities in terra cotta architecture; he made a strong plea for the adoption of suitable standards in this line of manufacture and said that the day was dawning when extensive use would be made of terra cotta for the development of new ideas in architectural lines.

Other prominent speakers of the evening were State Senator Thomas Brown, Perth Amboy, who had much to do with the securing of a fund of $100,000 from the state for the new building; Charles A. Bloomfield, head of the Bloomfield Clay Co., Metuchen, N. J.; Professor George H. Brown, director, Department of Ceramics, Rutgers' College; Charles W. Crane, head of the Crossman Co., South Amboy, N. J., clay miner; Roy H. Minton, superintendent, General Ceramics Co., Metuchen; Robert L. Clare, Federal Terra Cotta Co., Woodbridge; Andrew Faltz, head of the Lambertville Pottery Co., Lambertville, N. J.; Leslie Brown, of Lenox, Inc., Trenton; D. P. Forst, Robertson Art Tile Co., Trenton, N. J., and Morrisville, Pa.; Howard Bloomfield, Metuchen; and Charles T. H. Phillips, Sneyd Enamel Brick Co., Trenton.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you waited your turn for this se
Made-In-America china.

ONONDAGA POTTERY
Syracuse, New Y

SYRACUSE

Every Housewife Should Know the Economies of

STONEWARE

If you ask us how to economize by saving foodstuffs longer and better, our reply will be to send you a valuable book by famous authorities explaining how to do this by the use of stoneware jars and jugs for keeping foodstuffs. This book contains an introduction by C. Houston Goudiss, editor of The Forecast, America's leading food magazine, and recipes by Miss Jessie Knox, instructor, Forecast School of Cookery, New York.

Besides a host of economy suggestions, the book contains scores of original recipes, tested and approved in this famous institution, and, in addition, recipes for packing and preserving by simple methods selected for their great merit by United States Government officials. Every housewife should have this book. It will be sent free on request.

It explains how covered stoneware jars keep bread, cookies, cake and pastry fresh for days longer so that you can bake more at once and save time and expense by baking less frequently.

It explains why vegetables kept in stoneware keep their firmness and freshness of flavor for longer periods: why salt and spices, tea and coffee, flour and cereals keep their quality and flavor so much better in stoneware; why stoneware preserve and jam jars keep all preserves more delicious by protecting their quality from light spoilage; and why all packed and pickled meats, eggs, fruits and vegetables are more delicious if kept in stoneware.

For Salt, Spices, Coffee, Tea

For Bread, Cake, Pastry

Crocks for Milk—Baking and Cooking

Bean Pot

Wax Seal Jar—Preserves, Cheese, etc.

Send for This Book

This book brings you help with your kitchen problems from some of the ablest authorities known. Simple directions are given for preserving and for packing eggs, fruit, berries, vegetables, meats, soup stock, etc., by the simple cold pack method. Anyone can follow these simple rules and everyone should put up foodstuffs to cut the high cost of living. This valuable book will be sent free on request. Send the coupon to the Company listed below which is nearest you.

American Clay Products Co.	Zanesville, Ohio
Zanesville Stoneware Co.	Zanesville, Ohio
U. S. Stoneware Co.	Akron, Ohio
Pfeltzgraff Pottery Co.	York, Pa.
Uhl Pottery Co.	Evansville, Ind.
Louisville Pottery Co.	Louisville, Ky.
Peducah Pottery Co.	Peducah, Ky.
Red Wing Union Stoneware Co.	Red Wing, Minn.
Western Stoneware Co.	Monmouth, Ill.
Buckeye Pottery Co.	Macomb, Ill.
White Hall Pottery Works	White Hall, Ill.
White Hall Sewer Pipe & Stoneware Co.	White Hall, Ill.

Grocery, Department, Hardware and General Stores have all styles and sizes of stoneware jars and jugs for every purpose.

Miss Jessie Knox
Instructor, Forecast
School of Cookery,
New York

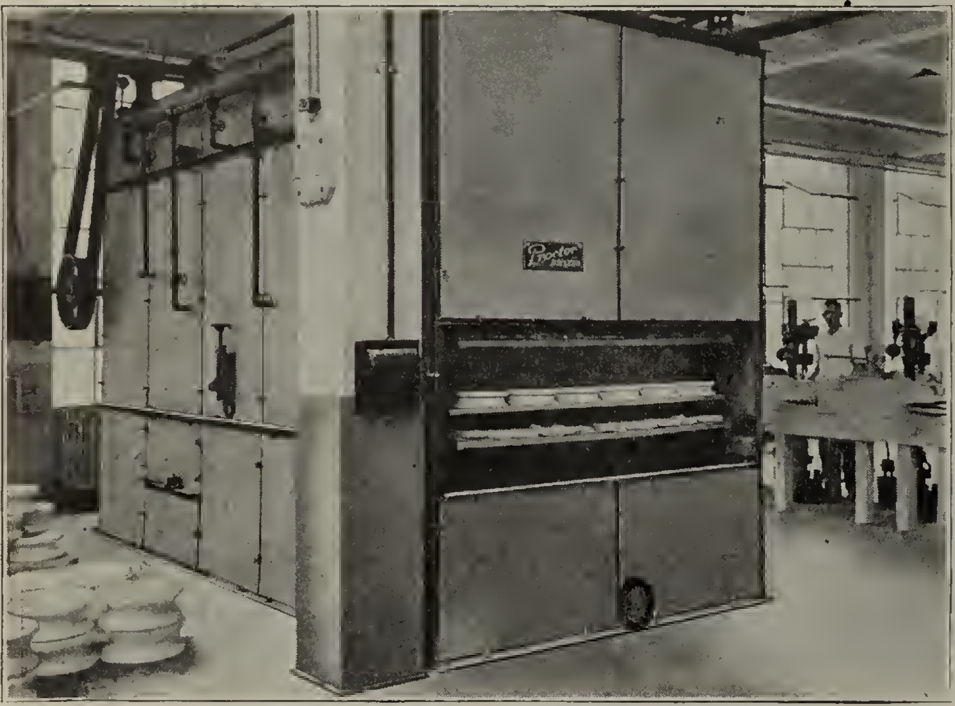
Fill In This Coupon and Mail to Company Nearest You

Gentlemen: Please send me your book of economy suggestions and Forecast School of Cookery recipes and the recipes compiled by U. S. Government officials.

Name ______________________________

Address ______________________________

The Advertisements Reproduced Above Appeared in the April Issue of the "Ladies Home Journal". In the Same Issue of This Magazine Was Printed an Article Setting Forth the Possibilities of China in Beautifying the Home Interior. It is Certain That No Home is Complete Without Good China and Pretty Chinaware Adds to the Attractiveness of the Home. American Manufacturers Might Do Well to Get Together and Advertise "Made in America" China Along These Lines. The Stoneware Manufacturers Have Seen the Wisdom of Collective Advertising and Twelve Manufacturers Have Banded Together for the Purpose of Bringing Their Product Before the Public.



MITCHELL-BISSELL CO., TRENTON, N. J.
This automatic "Proctor" Dryer is a commendable factor of efficiency in the Mitchell-Bissell plant. It dries their large output of pressed porcelain specialties and their filter press cakes with perfect results.

COOK POTTERY CO., TRENTON, N. J.
Partial view of a large, automatic "Proctor" Dryer at Cook Pottery Co. Three stories in height, it dries their electrical porcelain with perfect results and also conveys the ware from one floor to another. It has made radical savings in time, labor and space.

IROQUOIS CHINA COMPANY, SYRACUSE, N. Y.
These "Proctor" Automatic Stove Rooms have worked wonders in saving time, labor and space drying the general ware of the Iroquois China Co. These machines supply a continuous process of drying and conveying both ware and moulds to and from the jiggerman.

In these well-known plants, it is significant
are a necessary part of every Whiteware plan
fect drying is recognized as essential to hig
savings of time, labor and space made by “Pro
economical production.

Let us prove the value of "Proctor" Dryers,

PROCTOR & SCHWAI

LENOX, INC
Quality-first is the exacting requirement throughout
Stove Rooms fulfill this requirement drying cups of t
used to dry saggers and scrap porcelain. The results pr
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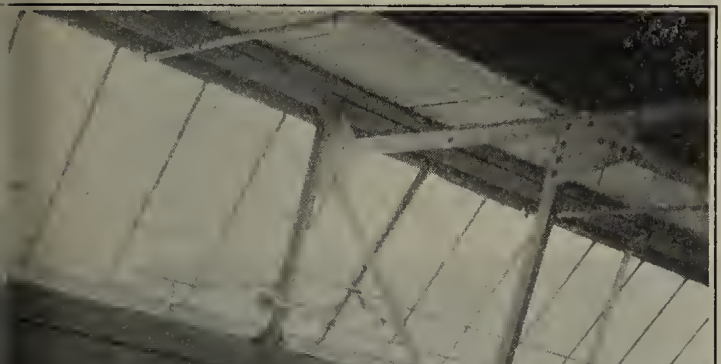

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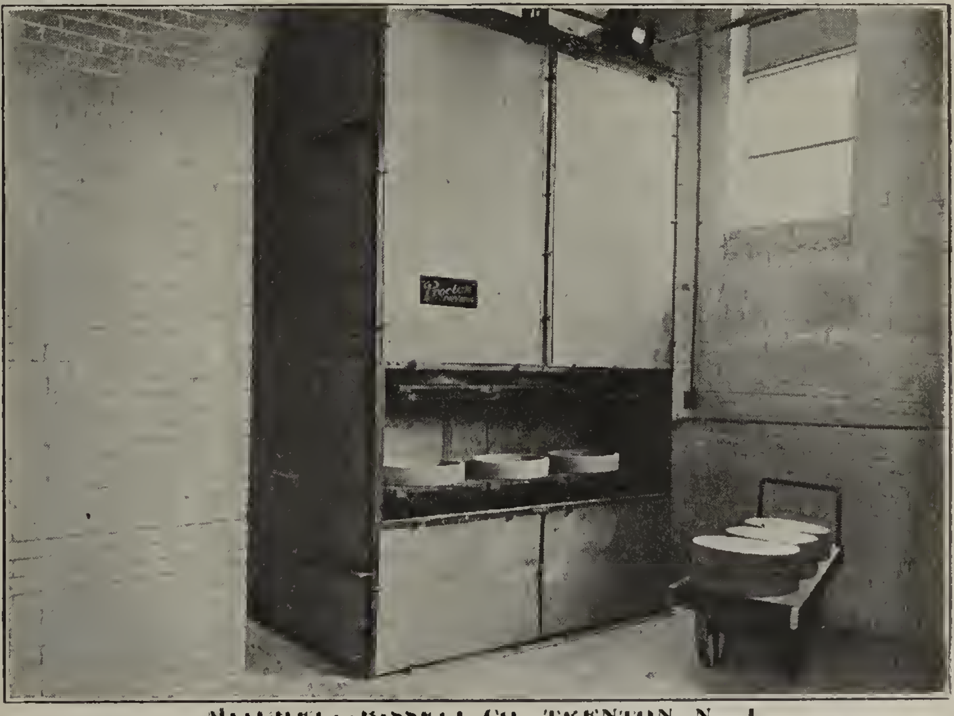
of Lenox, Inc. These two “Proctor” Automatic
grade. Other “Proctor” Automatic Dryers are
r” Dryers combine quality of drying, efficiency of

MT. CLEMENS POTTERY CO., MT. CLEMENS, MICH.
This is one of thirty-six "Proctor" Automatic Stove Rooms and Mangles installed in the plant of the Mt. Clemens Pottery Company. The large number installed reflects the complete satisfaction of this company with "Proctor" Dryers.

OHIO POTTERIES CO., ZANESVILLE, OHIO.
Another plant in which "Proctor" Automatic Stove Rooms have demonstrated their value in drying general ware with the perfect uniformity which prevents warping and cracking—and in much less time and space than old stove rooms require.



MITCHELL-BISSELL CO., TRENTON, N. J.
Installation—The "Proctor" Automatic Sagger Dryer. The saggers are taken directly from the presses at the other end of the dryer and delivered at this end uniformly and thoroughly dry. Great savings in time, space and labor.

English Clays Hold Steady in Price

While domestic pottery manufacturers are buying more liberally of imported china clay, this does not indicate that plant production is being increased. American pottery manufacturers will continue to use English china clay, no matter what the market may be.

During the latter part of 1920 and the early part of this year, domestic pottery manufacturers were pretty well loaded up with English china clays, and for some time refrained from placing orders for future requirements. There was a reason.

For a time it was presumed that the English clay market would show a decline, but such has not been the case. In fact, the tendency has been almost the reverse.

Recently advices have been received in the East Liverpool, Ohio, district that English coal miners have gone on strike, opposing a decrease in wages, and expressing the opinion that the British Government should continue to operate the coal mines as they did during the war. The Government only recently turned the mines back to the original operators.

English clay miners are large users of coal, and as a result are for the moment unable to reduce their overhead costs. English clay miners are prone to accept a reduction in wages, therefore, selling lists of the English china clays will quite likely remain firm at prevailing prices.

It was only a few weeks ago that American clay producers went before the Ways and Means Committee of Congress and asked for a protective tariff on this commodity. Little if any objection has been raised by American pottery manufacturers to a tariff on English china clays.

Receipts of English clays are not liberal, this on account of the present scarcity of bottoms.

* * *

Big Deposit of China Clay in California

The Empire China Co. of Burbank, Cal., has a contract with the American Clay Co. for the exclusive use of its clays for the Pacific Coast States, for the manufacture of china and porcelain table wares and it is its purpose to use this exclusive contract as a foundation for building up a china ware industry second to none in this country and probably none now operating in the world. The American Clay Co., controlled by Fred E. Keeler and I. R. Landis of Los Angeles, owns practically inexhaustible mountains of high-grade, white-burning china clay—claimed to be the only deposits of such clay in any quantities in the United States, and located only 447 miles from Los Angeles on the Salt Lake Railroad. A spur track for shipment of the clay to the main track for delivery to the Burbank plant is now being laid by the railroad, thus insuring a delivery of clay upon the completion of the plant.

* * *

Unusual Demand for Artistic Tile

The Batchelder-Wilson Tile Co. is the title under which the entirely original form of baked tiles, block, shapes, panels and decorative utilities originated by Ernest O. Batchelder of Pasadena, Cal., is being marketed. This tile is made at the Batchelder Art Potteries at 2633 Artesian Street, Los Angeles, Cal., and is gaining in public favor. The fundamental idea of the firm is to apply art to residential and commercial buildings, by giving distinctive and individual designs and color treatments to any form in which clay can be used. The company, which is not yet incorporated, is owned and controlled by Ernest O. Batchelder, artist; L. H. Wilson, ceramist; and Homer W. Glidden, architect.

The property has excellent shipping facilities. These are necessary because within two years the product, which was used locally, has been demanded abroad and ninety per cent. of the output is now going East. An order from Australia is now taking the month's supply. This has all followed the showing at the San Francisco World's Fair, where a building was erected to show the beauty of color in architecture. Dull finish is the distinguishing mark of the Batchelder tiles, in sharp distinction to the highly glazed faience tiles once so popular.

Mantels, fireplaces, wall panels, are being shipped to every part of the country but the real work of the company is the special designing and making of decorative interiors and exteriors for homes and business blocks, with reference to artistic colorings and appropriate designs for each specific location and use.

* * *

Reducing Burning Costs

A portable burner for whiteware and electric porcelain kilns is the most recent innovation in the domestic pottery field, and first tests have proved very satisfactory. In seasons past, T. J. Underwood of Dayton, Ohio, has worked out a time and labor saving burner for pottery kilns, but all previous installations were stationary.

The R. Thomas Sons Co., of Lisbon, Ohio, manufacturers of high tension electric vitreous porcelain ware, have equipped two kilns with this late designed burner, and now the management has announced that all kilns are to be similarily equipped. The system is the application of steam forced into the coal flame, thereby creating a greater heat efficiency and the burning of kilns in quicker time.

Notations kept while the first two kilns were being burned under this system of firing, showed a saving of twenty-five per cent. in time, and a reduction of fifteen per cent. in the amount of coal consumed. It was also recorded that no "clinkers" stuck to the fire box, whereas in the past under the old method of coal firing, crow bars had to be used to knock "clinkers" from the sides of the wall in the fire box.

The Furnaces Shown Above are Portable and It is Said They Reduce the Burning Time and Amount of Coal Consumed.

As for the results under this system of firing, the firm announced this week that a better quality of ware was obtained, and the loss of cracked or imperfect ware was reduced to a minimum.

This new equipment is now interchangeable, and while some parts are stationary, yet other attachments can be removed from kiln to kiln as required.

C. E. Haviland is Dead

C. E. Haviland, of the Haviland China Co., died on March 30 at Limoges, France. Mr. Haviland was of American descent, the founder of the firm, Theodore Haviland, having left the United States because of the difficulty in obtaining local porcelain artisans. The American origin of the firm served it well in 1905 during a labor riot. Mr. Haviland flew the Stars and Stripes over his plant when the mob became menacing and being a United States consular representative, the area of the works became legally American territory, as a consequence of which the mob was overawed.

* * *

Charles Kirk to Build Plant in Los Angeles

Charles J. Kirk, head of the Universal Sanitary Manufacturing Co. of Newcastle, Pa., and inventor of the Kirk continuous or tunnel kiln, came to Los Angeles, Cal., about six weeks ago to look over the Alberhill clay deposits. He returned to his home and it has just developed that while here he entered into an agreement with the Whiting-Mead Commercial Co., of East Ninth Street and Vernon Avenue, whereby he will build a plant adjacent to that of the Los Angeles concern on Vernon Avenue, having acquired ten acres of land for that purpose—and the two firms will co-operate in handling the wares they put out. The Whiting-Mead Co. makes sanitary enamel ware, bathtubs, etc., pipe fittings, orchard heaters, foundry work.

With the return of Mr. Kirk, on April 15, active construction will begin on the plant, for which he is already sending forward plans and machinery. When he comes he will be accompanied by a staff of engineers to complete plans for the new buildings and to get its construction under way without delay.

* * *

Flint Company Plans Operations

The Maryland Flint & Feldspar Co., Bel Air, Md., has acquired the plant and property of the Husband Flint Products Co., on Deer Creek, Hartford County. The site consists of about 143 acres of land, mill and other buildings. The new owner is planning for extensive operations and will expend about $150,000 for general extensions and improvements. Two large flint and feldspar departments will be established, and a housing development to accommodate about 100 employes. It is proposed to inaugurate operations at an early date. C. L. Gray is president of the Maryland company.

* * *

Empire China Co. Soon to be Opened

The first car of machinery for the new plant of the Empire China Co., at Burbank, Cal., has been received from the Patterson Foundry & Machinery Co., of East Liverpool. Additional shipments are now en route to this plant from the same firm of machinery manufacturers. The last of the blocks, moulds and cases for the new fancy shape which this firm will feature will go forward within a week. In addition to a fancy shape, the Empire China Co. will also market a plain dinner shape. It is considered likely that this new plant will be ready for operation within the next three months, as building construction is progressing rapidly.

* * *

English China Exports Increase

The exports of china, and so forth, by England has increased greatly in 1920 over 1919. The amount of china, in cwts. for 1919 was 1,329, for 1920 4,064.

Pottery, Long Idle, Will Start Up

The pottery plant at Texarkana, Ark., which has been idle for the last two or three years has recently been purchased by Adolphus Davis and I. L. Hawkins, of Pittsburgh, Kan., it is said. Demand for the product is so great that it is felt, despite the long period of idleness, the plant will be placed on a profitable basis.

* * *

Making Needed Repairs

Considering it advisable to make a number of repairs to its plant, the Potters Co-Operative Co., of East Liverpool, Ohio, has suspended operations for a period of two weeks. This concern was the first in the East Liverpool district to use fuel oil for kiln firing, and has made a success of the idea.

* * *

Electrical Porcelain Company Organized

Josiah T. Smith, president of the Smith-Phillips China Co., of East Liverpool, Ohio, his son Daniel and Rudolph Schylander, bookkeeper for the same corporation, and Edward Hoenig, an electrical porcelain expert, have formed the Ever-ready Porcelain Co., with a capital stock of $25,000. The company is manufacturing a cleat made of electric porcelain under patents granted Mr. Hoenig after several years fighting thru the courts, the work being done in the plant of the Davidson Electric Porcelain Co., at Chester, W. Va., but the main offices of which are in East Liverpool.

* * *

Floor and Wall Tile Company Organized

The Acme Tile Co., Passaic, N. J., has been organized with a capital of $750,000 to manufacture floor and wall tile, and fine ceramics. The company is headed by Daniel E. Saal, Albert W. Reese, both of Clifton, N. J.; and Thomas H. Hogan, Passaic.

* * *

Going East on Business

Zed T. Smith is making an eastern business trip in the interest of the D. E. McNicol Pottery Co., of East Liverpool, Ohio. He is showing both the decorated line of dinnerware of this firm and the Rockingham and yellow ware, the latter from the only yellow ware plant in the East Liverpool district.

* * *

Want Pottery in North Carolina

The Board of Trade of Asheville, N. C., has made it known that the community is interested in the securing of a general-ware pottery industry, and all because it is located practically "in the heart" of the clay belt of the United States. The commercial body has observed that clays from the south are shipped north and worked into a finished product, and then resold in the same district from whence the original material came from.

* * *

Jobbing and Decorating Concern Formed

The Kent Avenue China Co., Inc., has been formed at New York with a paid in capital stock of $100,000, Maurice Bergman being president of the corporation and Joseph M. Schwartz, vice-president and treasurer. The concern has purchased the Samuel Levy Building at 501-505 Kent Avenue, Brooklyn, and in addition to doing a jobbing business will also decorate whiteware, which it is purchasing in the open market. During the week of March 15 these two men bought fifteen cars of whiteware out of the East Liverpool, Ohio, district. They operate three decorating kilns in this building.

CURRENT PRICES *of* COMMON BUILDING BRICK DRAIN TILE *and* HOLLOW BUILDING TILE

WITHOUT DOUBT, much of the increased building activity can be attributed to the fact that material manufacturers have and are still making reductions in the prices of their products, even tho in most cases it involves a sacrifice of profits. About forty per cent. of the cities listed below announce reductions in the price of common brick ranging from $2 to $5 per thousand. It is generally felt that the action of the Illinois Brick Co., of Chicago, in cutting the price twenty-five per cent. will have a far-reaching effect. Drain tile prices remain fairly steady with but few changes recorded. Ten cities report a reduction in this commodity. Hollow building tile is showing a distinct tendency downward. Excepting the Pacific Coast, prices on this building material have been lowered in every section of the country. Altho the reductions are not startling in amount they nevertheless show the willingness of the building material manufacturer to do all in his power to start the long delayed wheels of the construction industry moving.

The footnotes are explained at the bottom of the following tabulation.

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	$28.00	.12	
Boston, Mass.	24.00	.153	160.00
Providence, R. I.	32.00	.16	
Hartford, Conn.	25.00*	.09	
New Haven, Conn	30.00	.10	
New York City	17.00	.13	
Albany, N. Y.	30.00	.05	
Utica, N. Y.	33.50	.0745	
Syracuse, N. Y.	25.00	.07	135.00
Oswego, N. Y.	35.00	.07	
Binghamton, N. Y.	26.00	.06	
Elmira, N. Y.	30.00	.08	
Rochester, N. Y.	22.50	.075	100.00
Buffalo, N. Y.	26.00	.06	150.00
Jamestown, N. Y.	35.00	.085	120.00
Allentown, Pa.	19.50	.....	
Erie, Pa.	26.00	.0525c	120.00
Philadelphia, Pa.	20.00	.07	115.00
Pittsburgh, Pa.	20.00	.08	120.00
Reading, Pa.	21.50	.07	
Scranton, Pa.	23.00	.08	
Newark, N. J.	23.50	.09	81.10
Paterson, N. J.	22.00	......	
Trenton, N. J.	24.00	.10	
Wilmington, Del.	23.00	.10	125.00
Washington, D. C.	24.50	.08	125.00
Baltimore, Md.	25.00	.07	125.00
Norfolk, Va.	18.00	.10	
Richmond, Va.	25.00	.10	
Huntington, W. Va.	23.00	.075	110.00
Fairmont, W. Va.	35.00	.06	120.00
Wheeling, W. Va.	25.00	.075	120.00
Atlanta, Ga.	18.00	.125	
Miami, Fla.	33.00	.12	200.00
Tampa, Fla.	23.00	......	120.00
St. Petersburg, Fla.	23.00	.....	140.00
Louisville, Ky.	19.00*	.045	117.90
Lexington, Ky.	21.00	.10	111.50
Memphis, Tenn.	16.00	.07	145.00
Nashville, Tenn.	17.00	.08	134.70
Birmingham, Ala.	23.00*	.15	116.00
New Orleans, La.	17.85	.09	
El Paso, Tex.	16.00	......	90.00
Houston, Tex.	24.50	.14	103.10££
Dallas, Tex.	17.65	.15	120.00££
Topeka, Kans.	35.00	.065	110.00
Little Rock, Ark.	12.50*	.12	
Oklahoma City, Okla	20.50	.05	88.50
Cincinnati, Ohio	23.00	.0708	80.00¶
Cleveland, Ohio	17.00	.061	70.00
Columbus, Ohio	20.00	.065	
Toledo, Ohio	18.00	.06	100.00
Detroit, Mich.	18.00	.07	95.00¶
Evansville, Ind.	15.00	.04	87.40
Fort Wayne, Ind	21.00	.05	110.00
Indianapolis, Ind.	18.00	.06	135.00
South Bend, Ind	23.00	.04	115.00
Terre Haute, Ind	17.00	....	
Bloomington, Ill.	23.00	.05	100.00
Chicago, Ill.	12.00	.07	93.75
Moline, Ill.	24.00	.08	120.00
Peoria, Ill.	18.50	.06975	78.00
Green Bay, Wis.	19.00	.06	125.00
Milwaukee, Wis.	16.00	.07	120.00
Grand Rapids, Mich.	18.00	.....	
Minneapolis, Minn.	20.00	.08	135.00
St. Paul, Minn	20.00	.08	135.00
Davenport, Iowa	22.50	.08	95.00
Des Moines, Iowa	....	.11	82.00
Sioux City, Iowa	19.50	.....	100.00
Kansas City, Mo	25.00	.0625	100.00
St. Louis, Mo	15.00	.08	90.00
Lincoln, Neb.	21.00	.08	84.00
Denver, Colo.	14.00	.....	165.00
Butte, Mont.	16.00	.....	
Los Angeles, Calif	15.00	.05	100.00§
San Diego, Calif	20.00‡	.105	92.50§
San Francisco, Calif.	20.00	.065	112.00
Portland, Ore.	19.00	.085	115.00
Seattle, Wash.	17.00	.09	110.00
Winnipeg, Man.	19.00	.13**	181.00
Toronto, Ont.	18.00	.075	
Halifax, N. S.	25.00	.....	
Quebec, P. Q.	18.00	.065	

Editor's Note.—The prices of the commodities listed above are reported as delivered on the job, and are, therefore higher than the plant prices. These prices are obtained from a sister publication, **Building Supply News**, and are sent to this paper by dealers in the various cities listed. **Brick and Clay Record** will appreciate any corrections. The cities in italics are those whose prices have changed.

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% disc., 15 days.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipment; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

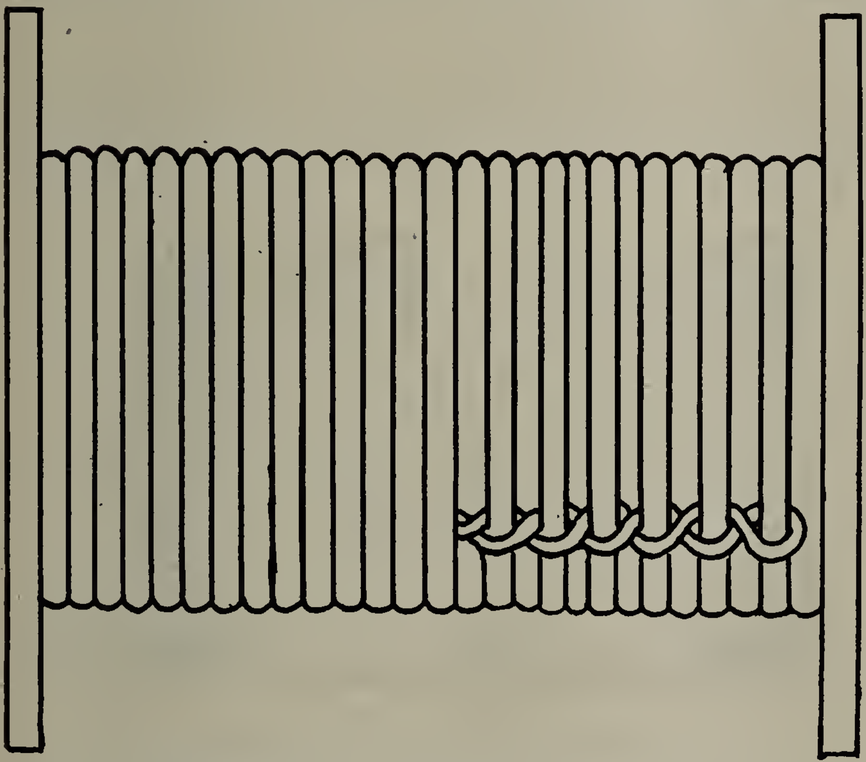
The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Handling Steel Cables on Winding Drums

During the past season I picked up several tricks in handling steel cables on winding drums which may be of interest to readers of the "Superintendent Department."

Practically all plants using a winding drum and cable to hoist clay cars from clay pit to plant must carry an excess of cable on the winding drum to take care of extension of clay pit track, long and short branch tracks, etc. When gravity carries the empty cars back, only skillful application of the winding drum brake will prevent the cable overrunning on the winding drum spool, due to the spool rotating by momentum after the car and cable slacks and stops. This overrunning is a frequent cause of bad kinks and broken strands.



Tieing Together Several Turns of the Part of Cable Which is Not in Use Prevents Kinking Resulting from the Cable Unwinding too Far.

This trouble can be readily overcome by putting a "becket" on the cable, which is done as follows: First let out the amount of cable required to reach the present end of the clay pit, and then run about eight turns more off of the drum. Next, take about six feet of large size soft iron wire (or cable, about ¼-inch soft iron guy cable) and bring it into a "U" with three-foot legs. Put the loop of this over the last hard, three or four twists.

By hand turn another loop on the winding drum, catch this loop in the loop of the becket, and twist becket around hoist cable. By hand, wind another loop of cable on this drum and twist it into the becket. Repeat until six or eight loops of cable are thus made fast in the becket. Pull up your cars and wind in the cable on top of the becketed cable and forget about it. When the cars are let down again the cable will run out until it comes to the becket and stop—the remaining surplus cable will stay on the spool in smooth, snug coils. When you need to extend the cable, release a loop or two from the becket.—*H. L. Longenecker, Cambridge (Md.) Brick Co.*

⁂

Distribution Problems to be Taken Up

A new department of the Chamber of Commerce of the United States has just begun to be active. It is known as the Department of Domestic Distribution. Among other important problems which will be taken up by the new department will be the studying of the activities of trade associations at present in the field of distribution, and cooperating with trade associations in outlining educational campaigns, disseminating a better knowledge of the problems and economics of distribution to the general public and to those within the field of distribution.

How to Tell Progress of Oxidation of Clay Ware

The density and the size of the ware obviously influences greatly the rate at which oxidation must take place. While soft mud brick can be readily oxidized, owing to its greater porosity, which allows air to penetrate into the interior, this is not true of stiff mud brick, especially if made by the end cut process. Similarly, dry press brick are also oxidized more easily than stiff mud brick, but not as readily as the soft mud. The slickened sides of the stiff mud brick tend to offer resistance to the penetration of gases into the interior of the brick. That is why an end cut brick offers more trouble than a side cut brick in both drying and burning.

The manner of telling when a kiln of ware is completely oxidized is to place some test pieces in the kiln which may be drawn out at different intervals during the oxidation stage of burning. These test pieces should then be broken open to note their color and texture. To tell when a piece of ware is oxidized, simply examine the piece of ware which has been broken and if the carbon has not been completely removed, the piece will have a black core in the center. On the other hand, if the ware is sufficiently oxidized, it will be uniform in color and appearance thruout its whole cross section. The test pieces, however, must correspond in size to the pieces of ware that are ordinarily burned in the kiln.

It should be noted whether any blue smoke is coming from the stock of the kilns. The blue smoke indicates that the ware has not yet been prepared for vitrification, that the ware is still porous, that carbon and sulphur still exists in the ware and that it is not yet safe to raise the temperature.

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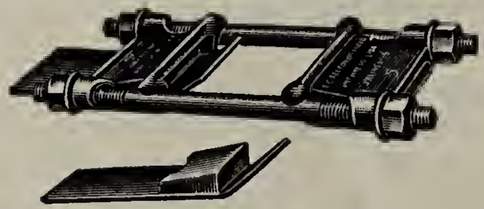
Malleable Iron Kiln Band and Plate Fasteners



The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

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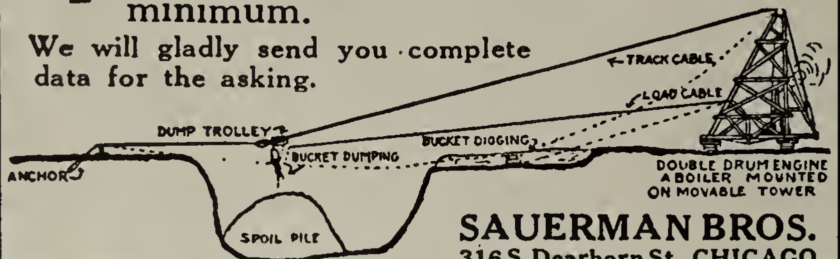
Digs, Conveys and Dumps in one operation.
Cuts labor and digging costs to a minimum.

We will gladly send you complete data for the asking.



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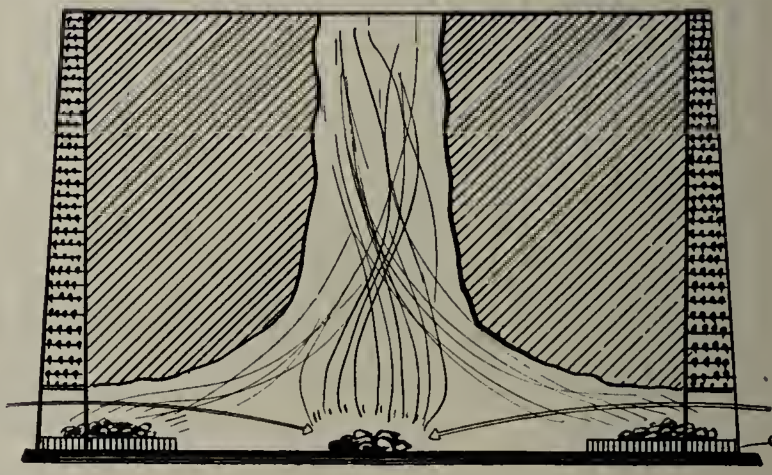
A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Cannot Get Heat Into Center of Kiln

964. *Newfoundland—We are burning our up-draft kilns and cannot get the middle of the kilns hot enough. We do not know whether our grates are far enough thru the kiln and ask your advice on this question.*

The above question was asked in the March 22 issue of *Brick and Clay Record* and the advice was given that the trouble might be due to small furnace area or possibly the draft conditions were not sufficient to carry the heat thru the kilns properly.



Cross-Section of Up-Draft Kiln.

Another reply was that the kiln setting might be improper so as to get an uneven distribution of heat thru the kiln.

A subscriber seeing this question asked in the March 22 issue, made the following suggestions for the benefit of the inquirer:

"Regarding 964, the kiln in question, is I believe, a clamp kiln with open top. It is never hard to get the center of this kiln hot if they can get the heads of the benches to the right temperature.

"As soon as the arch begins to settle, which the burner sees in the fire box—chunks of coal about the size of a man's two fists should be thrown to the center of the kiln thru the fire box. About four chunks from each side and about every six hours. This coal in the center burns slowly, due to restricted air supply and absolutely none of the heat is lost. It does not require much effort and care must be used or the center will become too hot. Then, it is a good idea to throw a shovel of coal past the grates, about one-fourth of the way thru about every five or six hours. We used to set a trifle loose in the head of the bench (next the kiln wall), and clear to the top of the bench hot. If the head got hot it was no trouble to get the center hot."

⁂

Determining Value of Clay

968—*Texas. I have on hand some clay analyzing as follows:*

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

Silica	44.9 *Per cent*
Alumina	37.41 *Per Cent*
Ferric Oxide	1.04 *Per Cent*
Calcium Oxide	.55 *Per Cent*
Sodium Oxide	1.39 *Per Cent*
Ignition loss (water)	14.88 *Per Cent*

It is a white burning clay of low plasticity, high fire shrinkage, and a very high fusion point, about 1,800 deg. C. It burns steel hard at cone six (1,250) deg. C. with a porosity of about thirty per cent.

The material can be supplied washed so as to be uniformly as this analysis shows. I wish to know an approximate price that this material can bring and what demand there would be for it.

It is hard to tell the value of such a clay for use in the pottery industry without making some practical test to determine its plasticity, shrinkage, warpage and translucency.

Georgia kaolins in the crude state sell from $8 to $12 a ton. When washed they bring about $4 a ton more.

The great drawback to the use of Texas kaolin in pottery bodies has been its excessive shrinkage and warpage in the drying and burning stages. It might be possible that this kaolin would form a very good ingredient in a refractory body and for the manufacture of fire brick.

If you are desirous of having tests made as to the possibility of its use, we would suggest that you send a sample to Prof. A. S. Watts, of the Department of Ceramic Engineering, Ohio State University, Columbus, Ohio, to Prof. C. W. Parmelee, Universisty of Illinois, Urbana, Ill. Prof. C. F. Binns, Alfred University, Alfred, N. Y., Prof. G. H. Brown, Rutgers College, New Brunswick, N. J. These men can be of valuable help in determining the value of the clay you have.

⁂

How Do Contractors Estimate Brickwork?

969. *Wyoming—What is the general rule governing contractor's estimates of cost of brickwork relative to openings? Is it is customary for them to figure brick walls and count for all openings regardless of the size of the buildings? If not, at what size construction is the line drawn? We know that it is proper and customary for the openings to be figured solid when it comes to the labor part, but when it comes to the material which goes into the opening, at the present price brick sells, it seems there should be a line drawn in order to help reduce the cost of the structure. Any light you can throw on the matter will be greatly appreciated.*

Wm. Carver of the Common Brick Manufacturers' Association states that "the general rule in figuring brickwork is to deduct the brick for all openings having a greater area than ten square feet, regardless of the size or type of construction. We do not believe it is the custom or should be necessary to include the labor for an opening as if it were a solid brick

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tells the workman at a glance just what the temperature conditions are now, what they have been, and in what direction they are leading. With this knowledge he can readily obtain close regulation—and even inexperienced workmen can do better work.

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to take care of it. Thereby they will also take care of your pocketbook.
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No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

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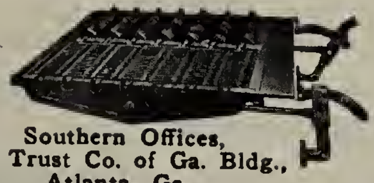

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Write us and we will tell you about them and submit prices
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Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.
Boss System of Burning
50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.
Dryers and kilns designed and built—write us regarding your drying and burning difficulties.
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Elkhart, Indiana

Car Efficiency Starts With Proper Selection
Many clay plants are today wasting time and labor because their cars are not suited to the work required of them. CONCO CARS are the result of careful engineering. They are capable of every car requirement. SPEEDY, STURDY, SAFE, and SURE.
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CRESCENT BELT FASTENERS
"Make Good Belts Give Better Service"
Once on, Crescents are on to stay. A Crescent joint will outlast the most durable belt. No part of belting is punched out or weakened. Maximum strength maintained. Belt runs same as endless on pulley side. No knocking or thumping. Noiseless. Joint hugs pulley. Full power transmission insured.
Write for new Booklet W on Increasing Belting Efficiency.
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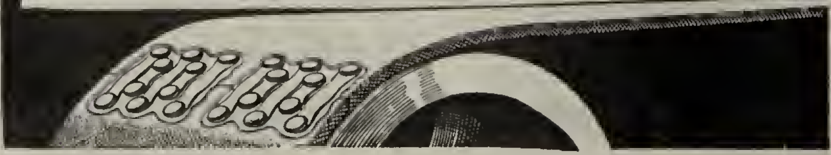

wall. Especially for a building containing many windows, such a method would give an excessive labor cost. A little more time is needed to form a corner, of course, but not a great deal, not enough to make any material difference in the estimate."

A general contractor in Chicago gives his opinion as follows: "The following information is not based on any rule among contractors, because I do not know that there is one. Each contractor has his own methods of figuring costs and quantities. Our method is based on our own experience.

"We figure eighteen brick to the cubic foot of wall. We do not double corners. We allow so much for material costs and so much for labor, this being variable due to market and labor conditions. We deduct both for material and labor for all openings over two feet square, and deduct material only for openings below this size."

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

Aged Brick Man Dies

John Fessenden, a brick manufacturer of Mechanic Falls, Me., died recently at the age of ninety-four. Mr. Fessenden was a brick manufacturer practically all his life and built up a substantial business in Mechanic Falls. He is survived by his wife, a daughter and two sons.

Clay Industry Loses Faithful Worker

William G. Hipp, president of the Massillon (Ohio) Refractories Co., secretary and general manager of the Massillon Stone & Fire Brick Co., is dead at his home, following a week's illness. He was one of Massillon's most prominent business men. He is survived by his widow, three daughters, a son and a brother.

Mr. Hipp was born at Bolivar, Ohio, in 1860. The early years of his life were spent in Canton. After several years in Pittsburgh, Pa., he moved in 1889 to Massillon where he has lived since. He was a member of the American Ceramic Society to which he was elected in recognition of his extensive and valuable research work. He was one of the best known men in the clay working industry in the Canton district.

Aged Clay Man Laid to Rest

Fred Schrader, aged seventy-four, for many years a brick manufacturer, died April 6 at his home in Kokomo, Ind. He was born in Germany and came to Batesville, Ind., when nineteen years old. Mr. Schrader was engaged in the manufacture of brick in Kokomo, Montpelier, Elwood and Jonesboro from 1875 to 1895. He is survived by seven children.

Returns to Clay Industry

S. L. Warner has returned to the clay industry which he left some four years ago to become general manager of the National Tire & Rubber Co., of East Palestine, Ohio. Mr. Warner has accepted a position with the Robinson Clay Products Co., of Akron, Ohio, and will become general manager of one of its subsidiary companies, the Clearfield (Pa) Sewer Pipe Co. Prior to his entering the rubber game

Mr. Warner was connected with the Robinson Clay Products Co. in an executive capacity at the company's general offices.

Will Begin Work Soon at Revived Plant

The Christopher brick plant at Gadsden, Ala., which has been idle for some time has been sold to Gordon Wood, an engineer from New York. Mr. Wood has been engaged in building nitrate plants at Muscle Shoals and will add new machinery to his newly acquired brick plant. Operations will be begun shortly.

Work to Commence Shortly

D. N. Darling, Douglas, Ariz., will resume operations at his plant May 1. New and improved machinery has been installed increasing the capacity of the plant to 50,000 brick per day.

Spend Much Money to Modernize Plant

Owing to extensive rebuilding operations the plant of the Tucson (Ariz.) Pressed Brick Co. has been idle for some months. This improvement work is now on the verge of completion, it is announced. Many thousands of dollars have been spent to make the plant a modern institution in every way and to increase the output many times. John Curtis, who is manager of the plant, is in charge of the rebuilding work.

100,000 Capacity Plant for Arizona

Construction of a new brick plant at El Frieda, Ariz., about twenty-four miles north of Douglas, is about to begin, it is said. All machinery for the new plant has arrived and the railroad has built a switch to handle shipments. The plant will have a capacity of 100,000 brick per day when operations are begun which it is hoped will be not later than the latter part of June. The concern is to be known as the Douglas Brick & Tile Co. It is reported that D. N. Darling, Albert Stacy, and J. H. Calvert are conducting this enterprise.

Clay Exhibit Draws Considerable Attention

Among the most attractive displays at the Santa Monica, (Cal.), "Bay Cities Exposition," closing the end of the first week in April, was the Pacific Clay Products Co.'s showing in vitrified clay. A sectionalized chimney showed the proper flue construction with vitrified clay lining. There was a pyramid of stoneware pitchers, jars, containers, ollas and products of all kinds along these lines. An arrangement of pressed clay and enamelled and fire brick. While every part of the display attracted wide attention it was the vitrified sewer pipe that held the widest interest of the spectators, who listened with attention to the explanation of why vitrified clay pipe will withstand deteriorating influences of acids, gases and alkalis.

San Francisco Active in All Building Lines

Brick piled up all winter has begun to move with increased building operations thruout California which commenced with the advent of spring. New construction has taken on a new lease of life according to prominent brick men who believe that all the brick produced by the California manufacturers last winter will be used early.

From all directions come reports that show an unusual building era is right at hand in San Francisco. A large volume of office and business building construction is already under way and increasing. Apartments, homes and business structures all figure. The fact that now is an opportune time to build is being fastened on the minds of the public at large.

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By INCREASED EFFICIENCY
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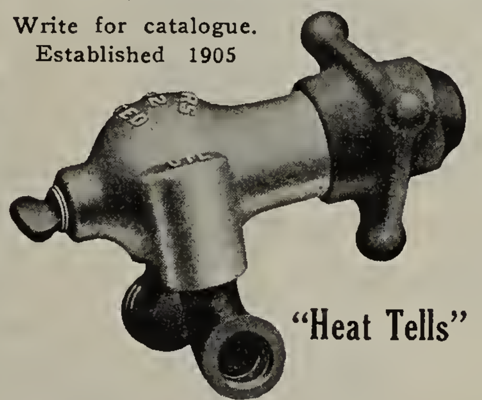

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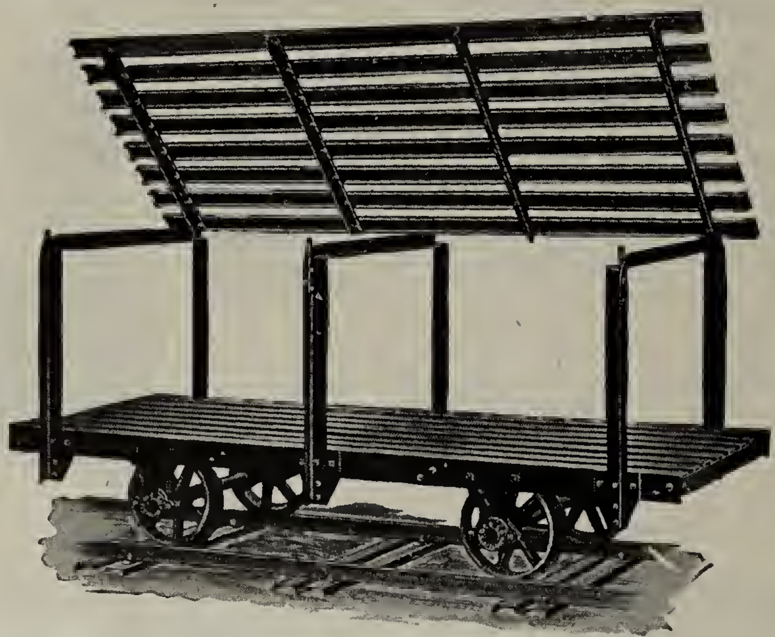

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Visitors from the East marvel at the amount of construction in San Francisco and the brick and clay products industries are thought to be on a firm basis thruout the state. More units of the industry are preparing to engage in business within the confines of the state shortly, it is believed.

A history of the development and use of clay products is given in a brochure issued recently by the Pacific Clay Products Co., a Los Angeles concern. The process of manufacturing the vitrified sewer pipe being used in that section of the country is also described.

Alberhill Institutes Department of Research

Under the auspices of the Alberhill (Cal.) Coal and Clay Co., a technical institute is in operation for the development of the clay industries of Southern California, at the plant of the Standard Potteries, Griffin Avenue and Alhambra Street. This plant has been used for research work in clays for several years, beginning with work for the government during the war, at which time the floating brick was invented and used in the construction of concrete ships. As a result of experiments made in this institution, four new industries came to Los Angeles last year—The Empire China Co., of Burbank; the Vitrifrax Co., the Standard Potteries and the Southern Glass Co. Others are looking this way.

When the Standard Potteries bought the plant last year, arrangements were made for its continual use in clay researches by the Alberhill company, and additions have been made for this purpose. A small experimental kiln has been added to the two large ones for quantity production. The city technical schools are to have the use of the new laboratory which has been built and students may work out their own problems and make their own experiments, as a feature in the vocational training course.

A separate room has been arranged as a library and study, and is supplied with the current trade journals and books on clay working, as well as all official publications and bulletins issued by the Federal or State industrial departments and the State University. This laboratory is placed at the disposal of any student, free of charge; also at the disposal, under the same terms, of anyone in the clay industry seeking to investigate any feature of clay handling. Both vitrified and plastic products are included in the research work. It is the intention of the Alberhill people that this laboratory shall serve as a sort of incubator for the clay industries and "it is at the free disposal of any persons or institutions with clay ideas or clay problems to be demonstrated," James H. Hill explains.

Making Plant Improvements

The Sponzo Brick Co. is making extensive improvements to its yard on Windsor avenue, Hartford, Conn., formerly known as the Nevels brickyard. New sheds are being built over the kilns and a 100-horse power engine is to be installed to operate the brick machines, with a cable system to handle the brick. The firm operates two large motor trucks for delivery purposes. The plant has a capacity of five million brick a year.

Many Connecticut Plants Resume Operations

Several of the brick yards in the immediate vicinity of Berlin, Conn., the brick manufacturing center of the state, are still delaying the resumption of operations because of the large amount of brick on hand and the limited demand. Some of the plants, however, already are working and some of the others are expected to start up soon. At the Murray plant, said to be one of the best equipped in the territory, the sheds are filled with brick and it is said no date for reopening has been set. The R. O. Clark Co., at East Berlin, expects to resume work soon. This is one of several yards operated by the Eastern Brick Co. Others include the C. P. Merwin Brick Co., and the Aetna-Merwin Brick Co.

Georgia Can Make Fire Brick From Own Clays

According to Dr. T. Poole Maynard, geologist of the Central of Georgia R. R., the development of Georgia clays has been progressing very rapidly. Mr. Maynard said: "There is no necessity for Georgia to continue doing as she has done in the past, that is, to send to Ohio and Pennsylvania for aluminum, alum, fire-brick and other refractory products. The raw material, fuel and hydro-electric power are at hand and the finished product can be manufactured right on the spot. Capital is finding this out and we confidently predict a splendid industrial development of this nature."

Appoint Brick Salesman Credit Bureau Secretary

Edward E. White, Jr., for some time a salesman for the Western Brick Co., and whose home formerly was in Danville, Ill., has been named secretary of the Indianapolis Association of Credit Men, one of the largest, if not the largest, business organization in Indianapolis, except the Chamber of Commerce.

Illinois Brick Co. Cuts Price 25 Per Cent.

An announcement which caused considerable surprise and comment was made by the Illinois Brick Co., Chicago, recently when that company cut the price of its common brick from $16 to $12. Speaking before a senate committee at Springfield, Ill., recently, William Schlake, president of the Illinois Brick Co., made the statement that he would duplicate in prices any reduction which labor took in wages. The brick man has made good on his promise in advance and is virtually calling the bluff of labor, which has maintained that material prices must come down before labor will.

Chicago Erecting 300 Two-Flat Buildings

What is claimed to be the biggest housing project since 1914 in Chicago, was begun recently in that city. 300 two-apartment buildings will be built at a total cost of $3,000,000. This is an important development, inasmuch as it will furnish homes for 600 families. S. W. Straus & Co., bankers and investment brokers, are financing the plan and predict that if it is successful practically unlimited millions can be made available for home building.

The plan is to have each buyer of the $10,000 brick two-flats pay $1,000 down, live in the upper apartment and rent out the lower for $42.50 per month. To this $42.50 is added $45 from the buyer's pocket and the $87.50 will constitute the monthly payment on the building. In fifteen years the building will be paid for and in addition to having a home of his own the owner will also have an income bringing apartment. Six per cent. interest plus a service charge is charged by Straus & Co., which they claim is not sufficient to net a profit for the company.

Buys Machinery Worth $75,000

The purchase of $75,000 worth of machinery is the first step toward the building of the Idaho Clay Products Co., a new concern at Weiser, Idaho, a report states. The building of its own railroad switch will be begun shortly followed by the erection of the plant proper. Operations will be begun before the end of May, it is now anticipated, with a force of about thirty-five men. The daily capacity of the plant will

Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife, Mary Anne, could never cook beans quite to suit his taste. As a matter of fact they were usually burned on top. Mary Anne's stove suffered from about the same ailment as a great many Heat Treating Furnaces do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to heat radiation from many uninsulated surfaces.

Insulation with SIL-O-CEL of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Heat Treater's furnace would guarantee an even temperature in the oven. For the Heat Treater, this would not alone eliminate one of the most risky elements, but would also save fuel by preventing the escape of 60 to 70 per cent. of the unused heat which ordinarily radiates from the outer surfaces.

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Every modern clay plant uses the MARION. It is a vital piece of necessary equipment which must not be overlooked while efficiency counts. Saves the labor of 2 or 3 men. Speeds production and insures better ware.

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In the clay plant there is need of maintaining a definite, uniform tempering in the clay. Men may forget, but reliable machinery such as the Schaffer Poidometer, cannot. You depend on men to watch the tempering, and, as careful as they may try to be, they allow valuable material to be wasted.

STOP THIS WASTE. GET A SCHAFFER POIDOMETER—NOW.

Built scientifically in accordance with known physical laws. Entirely automatic. Can be adjusted to temper, mix and delivery from 1½ to 21,000 lbs. of material per minute; stays on the job every minute and does not forget to "turn 'er on" whenever the tempering even approaches non-uniformity. Prevents loss and affordsmore perfect ware.

Get a SCHAFFER POIDOMETER, and you can depend upon results.

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You can *depend* on
Toronto Clay Working Machinery
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be approximately 15,000 face brick, 50,000 common brick, and seventy-five tons of hollow tile.

Officers of the company are, J. Kelch, president and general manager; C. I. Wild, vice-president; S. M. French, secretary; G. W. Benson, treasurer; Manley Brigendine, director; C. W. Huggins, superintendent.

To Sell Clinton Brick Plant

It has been learned in Indianapolis that the plant of the Clinton Paving Brick Co., at Clinton, Ind., has been offered for sale. The plant is one of the oldest in the western part of the state and has been in operation for many years. J. V. Robb, of Clinton, is president of the company and it is said he wishes to retire from business. Many of the largest stockholders in the company live in other places. The news of the proposed sale is a distinct surprise to the brick manufacturers and building material dealers of Indiana.

Fire Brick Salesman Finds Excellent Demand

Taking the demand for heavy building commodities as an indication of an increased activity along the building lines, Mr. Percy I. Hill, representing the Chicago (Ill.) Fire Brick Co., in the Indianapolis, Ind., district, recently in Chicago reported a lively resumption in construction work. Particular reference was made to the sewer projects which are part of the 1921 Municipal program of Indianapolis. That home building is on the increase is verified by the fact that building supply dealers in that section are stocking up with a view to increased demand.

Believes Public Works Building Will Open

W. A. Shoemaker, sales manager of the Indianapolis, Ind., office of the Bloomfield Brick Co., is optimistic concerning the prospects for public building this year. He cites the fact that already several large school contracts have been let and in practically all the cases, the bids were far under the estimated cost of the architect. He says the general attitude of the public and school officials is better than it was last spring. He says for the most part these officials appear to realize that the building material manufacturers have done their part toward lowering the cost of building.

Indiana Coal at Low Point

Brick manufacturers in Indiana, with the announcement of the big retailers of Indianapolis of a cut in the price of retail coal, are beginning to take an active interest in the coal market. For some weeks the steam coal prices have been at wide variance here. There was no demand and it finally got to the point where the quotations on "free" coal were few and far between. The operators hesitated to even estimate a figure which might indicate the fair market price. Brick manufacturers have held off in their coal buying, placing only such orders as were for emergency use, until the market stabilized. With the announcement that the retailers of Indianapolis have settled on a price for retail coal, the brick manufacturers believe the time is not far distant when buying can be done with some degree of certainty. Coal operators declare coal is at the lowest price it will go and before they will permit it to go lower they will shut down all the mines. They say it is too low now to permit of a reasonable profit. However, little buying is being done.

Lower Wage Issue Pending in Indianapolis

Brick manufacturers of Indianapolis and Indiana generally are watching with more than usual interest the negotiations now going on in those cities over the new scale of wages to be negotiated for the 1921 contracts. Altho the contracts expired April 1, none of them have as yet been signed. It was the agreement between the contractors and the union officials that work would continue until April 15 and the contractors are convinced that in case an agreement is not reached by this time the men will extend the time another fifteen days. The contractors are asking for reductions of from fifteen to twenty per cent. and the unions are asking for increases. C. C. Pierson, secretary of the Associated Building Contractors declared that the contractors would all shut up shop for the entire summer unless this reduction was agreed to. The contractors have drawn up agreements and submitted them to the unions. They will not negotiate on any documents but those submitted by themselves. Word has been received in Indianapolis that in some of the cities, among which are Vincennes, South Bend and Evansville, the two elements have been brought together.

State Building Code Recommended for Indiana

Recommendations for the adoption of a state building code for Indiana are contained in the seventh and eighth annual reports of the State fire marshal covering the years 1919 and 1920. The report shows that in 1919 there were 5,348 fires in Indiana, causing a total loss of $6,135,526 and that in 1920 there were 5,083 fires with a loss of $8,228,896. The report shows that the cause of most fires is sparks from chimneys. Second in the list is the defective flue and third is the fire started from a fire in an adjoining building.

Coral Ridge Adds to Capital Stock

Amended articles of incorporation have been filed by the Coral Ridge Clay Products Co., Louisville, Ky., fixing the capital stock at $100,000 common, and $50,000 preferred. The amendment was signed by Emma Kohler, president; F. G. Newton and O. B. Bergstrom, directors, who control the majority of the stock.

Market Not Absorbing Entire Output

Most of the Louisville, Ky., clay working plants report that about half of their present production is being absorbed by the market, while the balance is going into stock. However, demand for hollow tile and brick as well as sewer pipe is increasing, and the percentage of production going into stock will shortly be decreased as the market begins to absorb more material.

Louisville Prices Down 30 Per Cent.

Prices in Louisville are about thirty per cent. lower than peak prices, but not as low as Chicago quotations, under newspaper reports of recent twenty-five per cent. reductions. Today's price on brick in Louisville show delivered common at $20 a thousand; face, $30; on board cars, common, $17; face, $25, these prices being subject to five per cent. discount for cash within fifteen days. Peak prices were $27 on common and $42 on face brick. Wrecking of some old buildings is throwing over 6,000,000 brick on the market, good quality used brick bringing $10 a thousand.

Construction Activity Hinges on Labor

Labor holds the key to the building situation in Louisville, Ky., architects in that city say. With a reduction in the wage scale will come a resumption of building. Lumber is down, cement has reduced its price twenty cents per barrel and this commodity will not go lower unless coal and labor come down. Common brick is quoted at $19 per thousand as against $27 in 1920. Face brick prices are $30 compared with $42 last year. Hollow tile is $12 per ton, which is $4 less than last year. Prices of sand and gravel in Louisville are said to be from fifty to 100 per cent. lower than in other large cities of the country.

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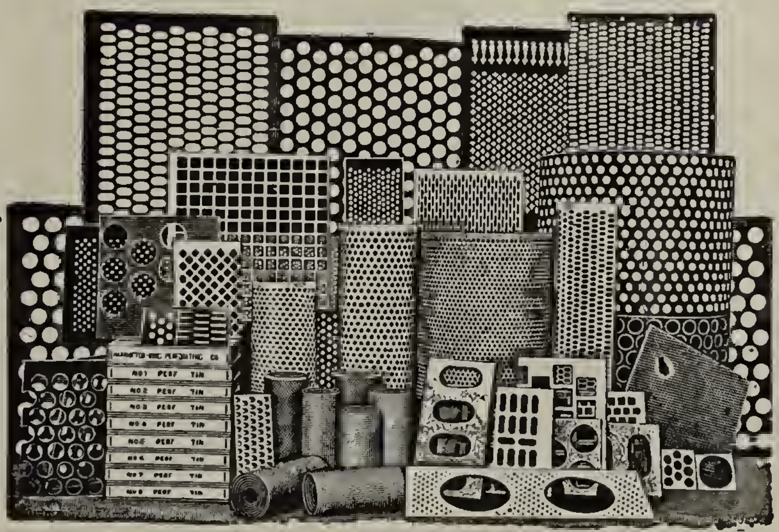

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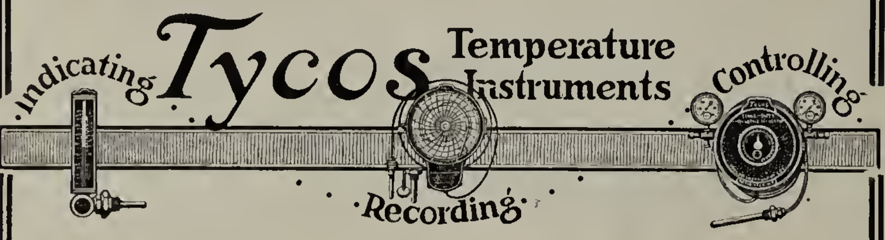

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There's a Tycos or Taylor Temperature Instrument for Every Purpose

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Starts Production at Two Plants

The Baltimore (Md.) Brick Co. has started work at two of its plants in that city, it is said, employing about 200 men. Another of the company's plants, of the type known as "open air" plants will resume operations just as soon as danger from frost has been passed. Carroll Van Ness is president and Warren Griffiss general manager of the company.

Fire Damages Brick Plant

A building at the plant of the Excelsior Brick Co., Benson Avenue, Violetville, near Baltimore, Md., was destroyed by fire on March 27, with a loss of several thousand dollars. The structure was one-story and at one time was used in connection with pottery production. Equipment, including molds, etc., was also destroyed. Frank Knighton is head of the company.

Fire Brick Company to Spend $150,000

The Big Savage Fire Brick Co., Frostburg, Md., has resumed work on its extension program inaugurated in February, and will expend about $150,000 for new buildings and machinery. Two main buildings will be erected, one will house the kilns and be used for general stock handling, while the other will be used for manufacturing. Considerable new equipment will be installed, including twelve large furnaces. The entire works will require a number of months to complete, and will make the plant one of the largest in this part of the state. D. A. Benson is vice-president and treasurer.

Fire Brick Company Locates In New York

The Lee Fire Brick Co., Boston, Mass., has leased a building at the corner of Creek and Third Streets, Long Island City, with railroad siding and waterfront privileges for a local works. A stock of material will be carried at the location.

Norton Company Reduces Wages

The Norton Co., Worcester, Mass., has made another reduction in wages at its plant, a previous reduction having been announced in a recent issue of *Brick and Clay Record.* The new adjustment affects the piece workers and hourly workers at the plant, the average reduction being fourteen per cent. The company has reduced its normal working force of about 4,000 operatives to 2,000.

Will Open Two Plants in Northampton, Mass.

Charles E. Sauter, who for the past ten years has conducted the so-called "South Street Brickyard" at Northampton, Mass., has sold the business to E. E. Burns and W. L. Nassau, who will continue it under the firm name of Burns & Nassau. The new firm also has taken a long lease of another brick plant on Elm street, Northampton, owned by Mr. Sauter's wife.

The South Street brick works has been in operation for about half a century having been first opened by Day Brothers, who conducted it for many years. They sold it to Henry Matthews, who after continuing the business for several years, sold it to Mr. Sauter ten years ago. The Elm Street brick plant was conducted for many years by the late W. A. Bailey, Mr. Sauter's father-in-law.

Michigan Clay Company Organized

The Saginaw (Mich.) Clay Products Co. has been organized with a capital of $30,000 to operate properties at Paine, Saginaw County, to include the manufacture of burned clay products. The company is headed by F. J. Lohman, Henry W. F. Goetz and J. Fred Goetz, Saginaw.

Believes Business Will Come Suddenly

"We believe that the outlook for business for the coming summer is good. It may be a bit slow in starting but we anticipate that it will come big when the confidence of the people is restored." F. F. Carhart of the Jackson (Minn.) Tile & Brick Co., takes this optimistic view of the future. The company is replacing its old augur machine with a No. 233 American which will add to the present capacity of the plant.

The Jackson Tile & Brick Co., was formerly owned as a partnership by A. V. Everett and F. F. Carhart, but has now been incorporated with a capital of $150,000. The officers of the new company are A. V. Everett, president; F. F. Carhart, vice-president and treasurer; W. Bruce Robertson, secretary. The other two directors are C. C. Carhart of the Sheffield Brick & Tile Co., and Sheffield Tile Co., both of Sheffield, Ia., and Mrs. Adelaide Dukes of Jackson. F. F. Carhart, who was largely instrumental in completing this corporation is also vice-president of the Sheffield Brick & Tile Co., and Sheffield Tile Co. He was active with these companies until the Spring of 1919, and has been the resident manager of the Jackson Tile & Brick Co., during his partnership with Mr. Everett.

Brick Plant Changes Ownership

The B. J. Allison & Co. brick plant at Haverstraw, N. Y., has been purchased by Morrissey & Co., it is reported. Approximately $50,000 was paid for the property. It was operated during the past few years by James J. Byrnes.

Organizes for Manufacture of Brick

The Willard Brick Co., New York, N. Y., has been incorporated with a capital of $50,000 to manufacture common brick. The company is headed by W. F. Davis, A. F. Hanrahan and E. A. Vosseler, E. W. Webb, 149 Broadway, is representative.

⁂

The Central Sewer Pipe & Supply Co., of Steubenville, Ohio, has filed papers increasing its capital from $10,000 to $150,000.

Regular Work Again Order of the Day

Plant No. 18, of the American Sewer Pipe Co., at Uhrichsville, Ohio, will resume work shortly after a long suspension.

Continental Clay Co. Operating All Plants

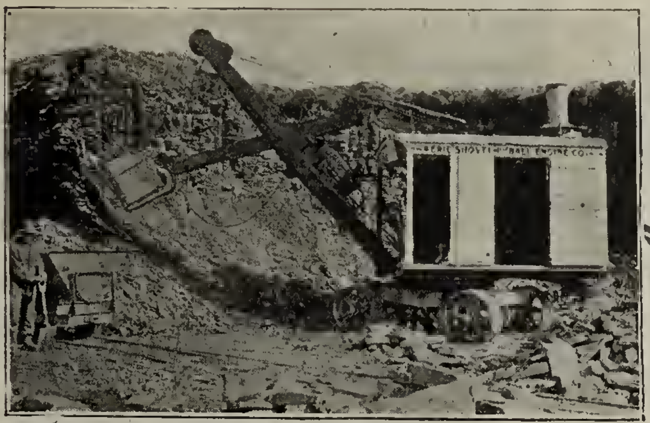
All of the plants of the Continental Clay Co., which has headquarters at Canton and a branch office in Columbus, Ohio, are in operation, according to C. E. Berridge, secretary, who is in charge of the Columbus office.

All Uhrichsville Plants Operating

With the beginning of operations at the Ross Clay Co. Uhrichsville, Ohio, practically all clay products plants are operating in that district. It is announced that Finzer Bros. have started a new brick plant at Sugar Creek.

To Start Operations Very Soon

The plant of the Hocking Valley Products Co., at Greendale, Ohio, which has been idle for some time will be started not later than April 15 according to John Baker, sales manager of the brick department of the concern. The plant has been placed in condition by making a number of repairs. A tenta-



The ERIE is the speediest and most reliable machine for brickyard digging, going through even hard shale without blasting.

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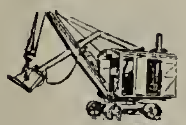

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You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

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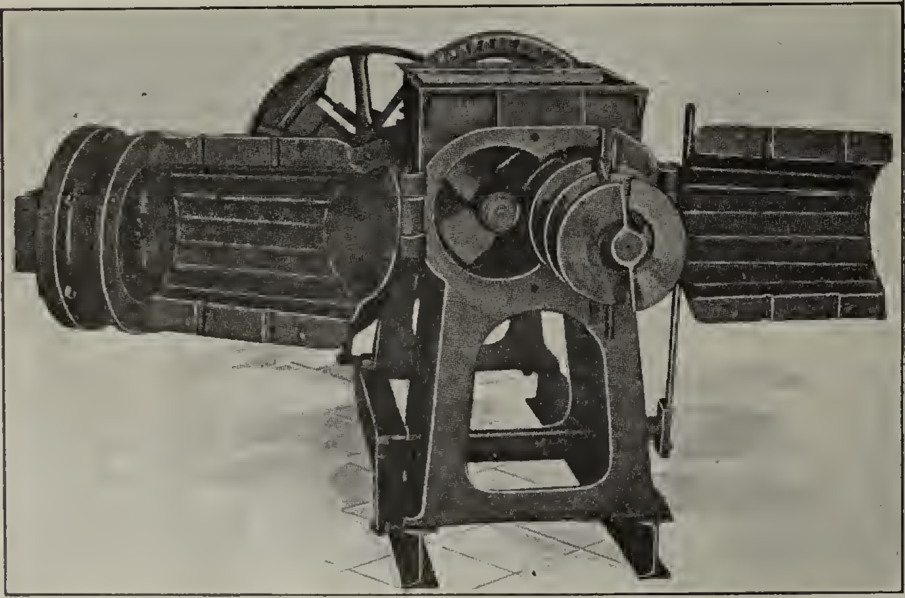
For the manufacture of brick and tile and many other kinds of clay products the success of the clay industries depends mainly upon the stiff-mud process of manufacture, and subsequently upon the backbone of this particular process: the Auger machine.



The ribbed cylinder, in connection with the patented steel augers having grooved sleeves, fixed stationary between them, prevent the clay from acceding the rotating movement of the augers and the machine from running hot, increases capacity and decreases the evil of lamination.

These auger machines are adapted for common and face bricks, drain tiles, hollow blocks, etc., the opened position of cylinders and nozzle eliminating the necessity of disconnecting the cylinder from trunk for cleaning purpose and replacing knives and augers; and having a main auger shaft extending all through the cylinder and a shorter auxiliary knife shaft extending only far enough to act as a feeder in drawing the clay into the barrel, transmit it to main shaft and generally assist in pugging. In the hinged, divided front part of cylinder are housed the patended augers. Same are made of steel with wings undercut at their base so far to permit the insertion of non-rotating sleeves, which prevent the clay from idle revolving and cylinder from running hot; it solves the most important problem in auger machinery; clay kept from rotation must go forward through the die and means capacity, while clay aimlessly turning around in cylinder means reduced capacity, decreased plasticity of the clay, accompanied by endless other troubles.

YOUR TROUBLES ARE OUR PROBLEMS

CLAYCRAFT SERVICE CO., 503 Wainwright Bldg., St. Louis, Mo.

tive wage scale, embodying a reduction of from ten to fifteen per cent. has been accepted by the men and it is believed that nothing will stand in the way of a resumption of operations.

Making Repairs Before Beginning

John Baker, sales manager of the brick department of the Hocking Valley Products Co., inspected the plant at Greendale, Ohio, early in April. Preparations are being made to put the plant in operation after an idleness and some repairs are being made to put it into first class condition.

Operating at Capacity All Year

The Carlyle-Labold Co., of Portsmouth, Ohio, is not lacking business. The Company has not lost a day and is making sixty thousand brick daily and running full capacity. The concern employs 110 men and makes face brick almost exclusively—pavers only on special order and very few commons.

Idleness Over, Plant Now Running

At a meeting of the Jackson (Ohio) Clay Products Co., officers and directors were elected and arrangements made to begin operations. This new company has purchased the plant at Beaver, Ohio, formerly known as the Beaver Tile Co. The company is equipped to manufacture drain tile, hollow building tile and brick.

About to Start Wheels Moving

The plant of the South Webster (Ohio) Brick Co., manufacturer of face brick, which has been closed down for some time has about been placed in condition for operation. During the let-up a number of necessary repairs were made to the plant to place it in first class condition. A. L. Fullerton is president and S. K. Day, secretary of the company, which has general offices at Chillicothe, Ohio.

Plant to Begin Work

John Cooper, in charge of the Columbus office of the Thomas Moulding Brick Co., left for a trip to Chicago to visit the home office recently. Steps are being taken to put the face brick plant at New Straitsville, Ohio, which is now operated under the name of the Straitsville Impervious Brick Co., in operation. This plant is one of the larger ones in the Hocking Valley district.

Clay Company Incorporates

The Mineral Lands Co. of Massillon, Ohio, incorporated recently for $15,000 and will deal in clay, sand, gravel and coal. The concern is associated with large companies in Detroit, Mich., and Wheeling, W. Va. The incorporators are H. W. Loffler, O. J. Sorg and G. T. Crawford.

Striving for Record Sewer Pipe Season

Tuscarawas County sewer pipe and building block activity is fair and greater preparations than ever before are being made for a record output late in 1921. Inside of thirty or sixty days work will be started on the construction of the Midvale (Ohio) Clay Products plant. Finzer Brothers plant at Sugar Creek, now in its new plant is undertaking greater production. The plant of the Robinson Clay Products Co., of Akron, Ohio, located north of Uhrichsville, two weeks ago resumed operations in full, after a three-weeks' suspension.

Starts Running Plant

Walter McKeen, who for the past five years has been connected with the Burton-Townsend Co., Zanesville, Ohio, was recently promoted to the position of sales manager of the brick department at Zanesville. This company has started its large brick plant No. 1 at Zanesville, Ohio, running principally on paving block, and will start its brick plant No. 3 at Ashtabula, Ohio, next month, also manufacturing paving block.

Ohio in Line With General Reductions

The price of common brick in Columbus and Central Ohio territory is rather steady at $18.50 to $20, delivered on the job. Sand mold brick sell for the smaller figure while shale brick bring a higher price. This is a substantial reduction from the quotations prevailing at the peak times. On the other hand face brick show almost as large a reduction and lower price levels prevail on all grades of face brick and other clay products.

Rushing Repairs to Advance Opening Date

The Hisylvania Coal Co., of Columbus, Ohio, is rushing the work on the repairs at the brick plant at Trimble and it will be placed in operation about May 1. This plant, which will have a capacity of 40,000 brick daily, will make face brick. The company's plant at Glouster, Ohio, which has been in operation for some time, is making paving block. Both plants were secured at receivers sale about eight months ago. Several pieces of machinery are still to be installed at the Trimble plant.

Company's Four Plants Now Busy

M. M. Morrow, sales manager of the Hocking Valley Brick Co., of Columbus. which company in conjunction with the Nelsonville (Ohio) Brick Co., operates three plants in the Hocking Valley, reports a slight increase in inquiries both for pavers and hollow tile. The four plants of the company are now in operation. Two of the plants at Nelsonville are making hollow tile, the other special brick, while the plant at Logan, Ohio, is busy on pavers. Mr. Morrow recently returned from a business trip in Michigan.

Starts Up at Capacity

The plant of the Ironclay Brick Co., of Columbus, Ohio, which is located at Shawnee, Ohio, was started with a full force of men April 11 after a layoff of several months. The men at the plant agreed to accept a reduction of approximately ten per cent. in their wage scale. The company believes that steady work can be given the men at the reduced wage scale for some time, depending on the activity of building operations after May 1. During the shut down a number of repairs were made at the plant which is now in excellent shape.

Present Building Code to Public

Public hearings on the new building code, which has been under process of preparation for about eighteen months, have been arranged in six of the principal cities of Ohio during the month of April in order to give an opportunity for all interested people to be heard before it is submitted to the Ohio General Assembly for enactment into law. Fred G. Lange, Ohio director of safety, who had charge of the drafting of the code, announces that the hearings will be as follows: Cleveland, Hotel Winton, April 6; Toledo, Waldorf Hotel, April 7; Akron, Engineering Society Hall, April 12; Youngstown, First

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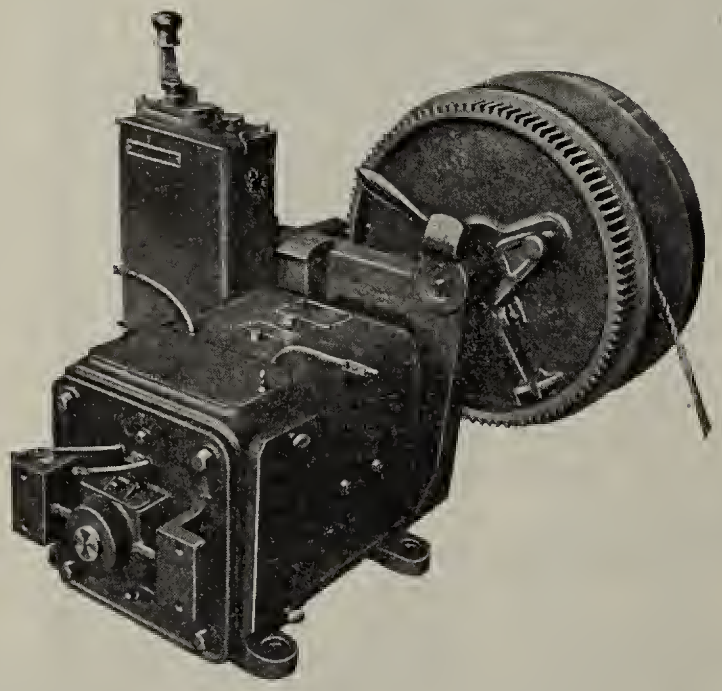

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(92)

National Bank Assembly Room, April 14; Dayton, Miami Hotel, April 20; Cincinnati, Builders' Exchange, April 18; Columbus, Southern Hotel, April 22.

Will Start Work Shortly

Emmet Howard, president and manager of the Columbus (Ohio) Fire & Face Brick Co., has secured an order for 102,000 brick from a housing proposition at Huntington, W. Va. He has also secured a large order for fire brick from Boston and Brooklyn. As a result of these orders and the fact that people are now inclined to enter the market, Mr. Howard reports a better feeling in brick circles generally. The plant of the South Webster (Ohio) Brick Co., which has been idle for some time will likely be put in operation by the latter part of April.

Social Spirit Prevails at Meeting

Departure from the usual cut and dried meeting was inaugurated this week by the Builders' Supply Board of Cleveland, Ohio. Regular business session was held at luncheon in Hotel Winton, with fifty members, representing every firm in the association, present. Ratification of committees' work and approval of the budget for 1921 was discussed. Following the business session, the members adjourned to the Ohio Theater, where they took in the matinee. This is another step by brick and allied independent dealers toward closer cooperation in business thru a better understanding of the individual in social intercourse, explained C. H. Patterson, secretary. The affair was arranged by Chester Harris, the Harris-Murray Co.; Leo A. Krueger, the Cleveland Clay Products Co., and Clarence Donley, the Donley Brothers Co.

Plant Opens Despite Labor Trouble

Plants of the Whitacre-Greer Fireproofing Co., at Waynesburg, Ohio, acclaimed the largest manufacturers of fireproofing products in the Canton, Ohio, district, are operating again at full capacity, following several months idleness due to labor troubles.

Charges that conditions existing at the plant of the Whitacre-Greer Co. are intolerable were made to the Stark County Commissioners by attorneys for the company and a formal demand was made that officials place sufficient deputies on the scene to prevent disorder. Should the county fail to do this, the attorneys said they would appeal to Governor Davis. Attorneys for the company claim that some buildings have been set on fire and that men armed with rifles station themselves in the hills surrounding the plant and fire at the men now employed. The Whitacre-Greer plant furnishes employment for a large part of the populace of Waynesburg. Armed guards have been employed by the company since it reopened. The situation has quieted down considerably.

Make Strong Effort to Lower Wages

Further developments in what now looms as a controversy between union building trades labor and the Building Trades Employers' Association of Cleveland, Ohio, have come to light in the last week. Organized labor has come out flatly against any reduction in wages with the application of new agreements following expiration of present agreements May 1. The employers, according to W. F. Hennessy, secretary of the Cleveland organization, are for lowering wages twenty per cent., in keeping with the general average in cities in northern Ohio, if no definite solution has been reached before May 1. At a meeting of building trades employers in Canton, Ohio, recently, comparison of figures from different cities showed that wages will be reduced, some unions even voluntarily reducing their own wages. Where unions would resist a reduction some cities are preparing to operate on an open shop basis, reports from the conference showed.

It is claimed by building trades employers in Cleveland that the public is demanding lower wages, and consequently lower building costs before it will go ahead with new building on a large scale. This is but reversing the process of war times, when high wages for prompt completion of building were paid willingly, it is pointed out.

The claim of union building trades operatives is that living costs in Cleveland have not been reduced and that wages should stand. In this, it must be admitted, after a survey of living cost conditions, they appear to be right. Meanwhile building waits upon a settlement.

Installs New Machinery

Several changes have been made at the plant of the Muskogee (Okla.) Vitrified Brick Co. Three Bonnot re-presses have been installed and a new cutting table has been purchased. Floyd S. Nicholson has recently taken charge of the office of the company, succeeding Wayne Moore. At present the company is handling nothing in the building material line except brick. "Some time in the future, however," Mr. Nicholson says, "we hope to put in a line of all materials that go into the construction of a brick wall."

Increases Earnings in 1920

A statement issued by H. W. Croft, chairman, compares the income of the Harbison-Walker Refractories Co. of 1920 with that of 1919 which shows an increase in the earnings for the year.

Purchase Brick Company

The Stauffer Brick Co., Red Lion, near York, Pa., has been acquired by Samuel Runkle and his son, Roman Runkle. The purchase includes kilns and other plant buildings. The new owners are said to be planning for the operation of the plant.

Another Plant Added to Fire Brick Family

The Keystone Firebrick Co., Philadelphia, Pa., has been organized with a capital of $150,000 under Delaware laws to manufacture fire brick and other refractory products. The company is headed by A. M. Davis and James Warnock, Jr., Philadelphia, and Walter L. Haehnlen, Cynwyd, Pa.

We Are Sorry for This Mistake

In the March 22 issue of *Brick and Clay Record* appeared an item stating that the Milton (Pa.) Brick Co. had been dissolved on account of business conditions. We have since been informed that Fiske & Co., Inc., Watsontown, Pa., have purchased the plant and that it is in better condition than ever, and will soon be operating.

Gain Complete Control of Brick Company

A report received recently announces that Frank G. Murray & Co. of Johnsonburg, Pa., have acquired all the buildings of the Johnsonburg Vitrified Brick Co. Included in the sale are twenty-one acres of land, several dwellings and other valuable assets. The new owners have not decided what disposition will be made of the site.

Will Not Accept Wage Cut

Authorized, it is said, to speak for eighteen organized building trades—representatives of union labor who met with the special housing committee of the Chamber of Commerce of

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"BIG CREEK"
for years has stood
for
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and
QUALITY

Pittsburgh, Pa., a short while ago, issued a statement denying that they had promised to urge upon the building workmen to accept a cut in wages in view of the proposed home building program of the committee and stating that the various trades have gone on record as being opposed to any reduction in wage rates.

Change in Building Code Permits Saving

Great saving in the construction of small houses is permitted by the new building code, prepared by the building code committee of the Chamber of Commerce and adopted by the city of Pittsburgh, Pa., it was announced to the chamber's special housing committee last week. The new code permits the omission of cellars where an eighteen inch air space is left beneath the house; allows a minimum wall of eight inches in a wall less than twenty-four feet high; permits use of terra cotta block; requires provision for a live load of not less than forty pounds per square foot of horizontal area, and has less stringent provisions for electric wiring.

Building Activity Increases

That preparations for the spring building drive in Pittsburgh, Pa., are being made may be deduced from the fact that building permits involving the expenditure of well over half a million dollars were issued last week by the city department of building inspection almost triple the total of the previous week. More than half of the total amount is to be spent in the construction of an office building to cost $340,000. Ten of the permits are for houses. The most popular type of house specified is of brick-veneer construction, altho there are also many permits taken out for frame houses.

Look for Good Normal Business

Common brick in Philadelphia, Pa., has dropped to $20, which is $5 below the highest 1920 price. One of the brick companies booked an order for 100,000 brick the day of the drop and the contractor purchasing them considered the price entirely satisfactory.

Contractors are figuring on a considerable amount of work and dealers are hopeful. A building boom is not looked for, but a gradual upturn with a very satisfactory volume in late summer is expected. Nothing definite is known as to what will be done in regard to effecting an adjustment in the building trades wage scales. The question will come up May 1.

Operations Started at New Plant

Operations have begun at the plant of the McCraw Brick Co. of Gaffney, S. C., it is said. The concern will soon be in a position to supply all the local demand for its product. The company will make brick of reputable quality.

Season Beginning Auspiciously

F. R. Thomas, of the F. R. Thomas Clay Products Co., Central Bank Bldg., Memphis, Tenn., reports spring trade opening up well. The early part of the season the company was busy finishing up last year's work. The concern is a wholesaler in clay and terra cotta products and operates in Memphis, North Mississippi and East Arkansas.

Memphis Building Activity Shows Life

Building in Memphis and vicinity is healthy in outlook and considerable work is being finished or inaugurated, not in any big volume as yet, but some large work will be under way in May and June, judging from reports in architectural and contractors offices. The brick firms and the material men in general say that business is picking up in the city and out of the city, tho they are not crowded with orders yet. A feature of the April situation was the strike early in the month of about 1,500 workmen from seven crafts, plumbers, electricians, painters, sheet metal and carpenters because they would not agree to a reduced scale, amounting to about twenty per cent. The contention of the workmen was that living costs had not been sufficiently reduced as yet. The situation is quiet, some adjustment with the carpenters is announced and with the others discussion is pending.

New Paving Brick Plant in Texas Begins Work

According to E. A. Eaton, manager of the Thurber Brick Co., Mineral Wells, Tex., that concern's new plant will begin operations in April. The new plant has a capacity of 1,000,000 pavers per month.

Builds Modern, Up-to-Date Plant

The Stamford (Tex.) Brick Works has increased its capital stock from $40,000 to $75,000 and will in the future make hollow tile in addition to its regular product. With the completion of the new works the company boasts of one of the most modern and complete brick plants in this section of the country. Officers of the concern are: Charles Brewington, president; W. T. Andrews, vice-president: J. P. Brewington, secretary-treasurer.

Installs New Boiler and Machinery

The Smithfield (Utah) Brick & Tile Co. has installed a new fifty-five horsepower boiler recently, it is said, and is also overhauling its machinery preparatory to the season's run.

Brick Company Expands

The Standard Brick Co., Charleston, W. Va., has filed notice of increase in capital from $10,000 to $150,000 for proposed expansion. Fred M. Staunton is president.

Build Plant to Make Hollow Tile

The American Clay Products Co., Charleston, W. Va., has commenced the construction of a new plant in the vicinity of Teays, W. Va., for the manufacture of hollow building tile. The company recently increased its capital to $50,000. C. L. Rice is president and treasurer.

Propose Levying Tax on Fire Clay and Gas

According to the provisions of Senate Bill No. 296, introduced in the present session of the West Virginia Legislature by Senator Bloch of Wheeling, a tax on fire clay has been set at one-half of one per cent. of the value at the mouth of the mine where mined. Of the tax so collected, one-third shall be credited to the state road fund, one-third to the public education fund and the remaining third to be used for general state purposes.

As respects natural gas, the rate fixed is five per cent. of the value of the gas at the mouth of the well, or where such gas is sold consumers in the state, the value where sold to consumers. Where one company produces and sells its product to another company, the tax to be paid by each company, that is one tax at the mouth of the well and the other tax on the basis of value as sold to consumers.

More or less opposition is being developed to the measure, as it has been pointed out that the new tax would only add to the cost to the consumer, as manufacturers and producers would not feel themselves at liberty to absorb the tax themselves.

Wyoming to Have New Fire Clay Company

A certificate of incorporation was filed with the secretary of state of Wyoming by the Rock River Coal and Fire Clay Co.,

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Unlike nearly all other industries, the Clay Industry uses more coal during the summer months than during the rest of the year.

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Bulletin C18 will tell you about the three Kingsbury products—SEALRITE, COATRITE, SCALINE.

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Forget Your Clay Gathering and Pit Labor Troubles.

The One Man Excavator Will Help You to Cut Down Expenses, Increase Production and be Independent of Labor.

For the average small clay plant there is no better way of winning clay, than by installing the ONE MAN EXCAVATOR.

It requires only one man to operate, and will dig enough clay to keep a "140,000 per day capacity" plant on the "go" every minute.

THE RUGGEDNESS, ECONOMY, SIMPLICITY AND DEPENDABLITY of this machine makes it truly efficient for your plant.

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Bay City Dredge Works
2613 Center Ave. BAY CITY, MICH.

Cheyenne. The company is organizing for the purpose of mining fire clay and coal and manufacturing fire clay products. The capital stock is said to be $500,000.

⁂

H. Burk, superintendent of the Shale Products, Ltd., at Inglewood, has accepted the position of works manager of the Shale Brick Co., Ltd., at Cooksville, Ont.

Increase Capital Six Times

The capital of the Superior Tile Co., Ltd., Fort William, Ont., has been increased from $40,000 to $250,000 and the name has been changed to Superior Brick and Tile Co., Ltd.

Building a New Plant

Richard Butwell sold the land on which his plant stood to the Hydro-Electric Commission last year. He has since purchased another property at Humber Bay, Toronto, and is having his plant re-erected thereon.

Growing Bushes and Manufacturing Brick

The Conklin Ginseng Nursery Plantations, Ltd., recently incorporated in Toronto with a capital of $40,000, are empowered to grow shrubs, and so forth, and "to carry on the business of manufacturers of brick, terra cotta, tiles, drains and sewer pipe, pottery, earthenware, china, ceramic ware of all kinds."

New Owner to Reopen Plant

The brick yard at Bazan Bay, B. C., formerly operated by the Bazan Bay Brick and Tile Co. is to be re-opened by J. T. Reading who has bought the equipment and who has an engineer on the plant. A start is expected in April on first-class common brick of an approved size, and drain tile. The plant has a capacity of 40,000 brick per day. Contemplated improvements include the building of kilns along the track which will facilitate the shipping and it is hoped to have a C. N. R. siding into the plant.

Statement Shows Business Sound

The annual statement of the Nova Scotia Clay Works, Ltd., has been issued. They have seven plants, but only those at Pugwash and Elmsdale, N. S., have been working. The annual statement to shareholders shows that during the season 12,786,000 stock brick were manufactured, and of this make 10,948,000 were shipped, as well as 396,000 of the 1919 stock, making a total of 11,344,000 shipped, leaving a stock of brick on hand at the end of the year of 1,838,000. The report says that the operations of the Elmsdale and Pugwash plants for the season proved fairly satisfactory, yielding gross profits of $39,118, which, together with other income, makes up the gross profits at $44,432. From this amount there was deducted $13,987 for taxes, salaries, insurance, etc., $6,000 for bond interest, $4,000 for bond sinking fund reserve, and $10,888 for depreciation, leaving net profits at $9,552.

Brick Down Only $1 in Ontario

Price of brick in Ontario has come down somewhat but no great reductions have been effected. Prices have, however, been reduced consistent with the lowering of manufacturers costs. The largest producer in the Toronto district is quoting $21 per thousand for common brick as against $22 last year, when coal prices were at their peak. Coal prices at present, it is estimated, are about $3 per ton lower than last year and since it takes approximately a third of a ton to burn 1,000 brick and since labor has not come down, brick could be reduced no more than $1 per thousand.

Directors of the Don Valley Brick Co., Toronto, have after mature consideration decided that they would make no attempt to reduce the present wage scale. Different companies will probably take different attitudes on the matter of wages.

Demand for Brick in Mexico Growing

It is planned by the Saltillo (Mex.) Brick Co. to enlarge its brick manufacturing plant. It is stated that the demand for brick in all of the larger cities of Mexico shows a great increase during the last few weeks, due to the general resumption of building operations. During the long revolutionary period comparatively little was done in the way of building new homes and business buildings. While there was not a great deal of destruction wrought by the different revolutionary factions in the larger cities thousands of people flocked into these places from the rural districts to avoid possible harm at the hands of the disturbing element, thus creating a serious housing problem.

It is to meet the existing shortage of homes that many new houses are to be built. Stone and adobe blocks have heretofore been largely used for building purposes thruout Mexico, but brick is coming more and more into use. During the latter days of the administration of the late President Porfirio Diaz quite a number of large brick manufacturing plants were established. Most of these are again in operation and it is stated that their product for some time to come has been contracted for. In the Tampico region enormous quantities of brick are being used in the construction operations of the different oil companies. Recently there have been importations of brick to that port from Newcastle, England.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912

of "Brick and Clay Record" published Bi-Weekly at Chicago, Ill..for April 1, 1921.

State of Illinois,
County of Cook SS.

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Edwin G. Zorn, who, having been duly sworn according to law, deposes and says that he is the Editor of the "Brick and Clay Record" and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912; embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and address of the publisher, editor, managing editor, and business managers are:

Publisher: Industrial Publications, Inc..........Chicago, Ill.
Editor: Edwin G. Zorn.........................Chicago, Ill.
Managing Editor: Frederick L. Steinhoff........Chicago, Ill.
General Manager: H. H. Rosenberg.............Chicago, Ill.
Business Manager: David B. Gibson........New York, N. Y.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock.)

H. H. Rosenberg............5349 Sheridan Rd., Chicago, Ill.
David B. Gibson............15 W. 38th St., New York, N. Y.
Edwin G. Zorn.............7533 S. Sangamon St., Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent., or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state)............................None.

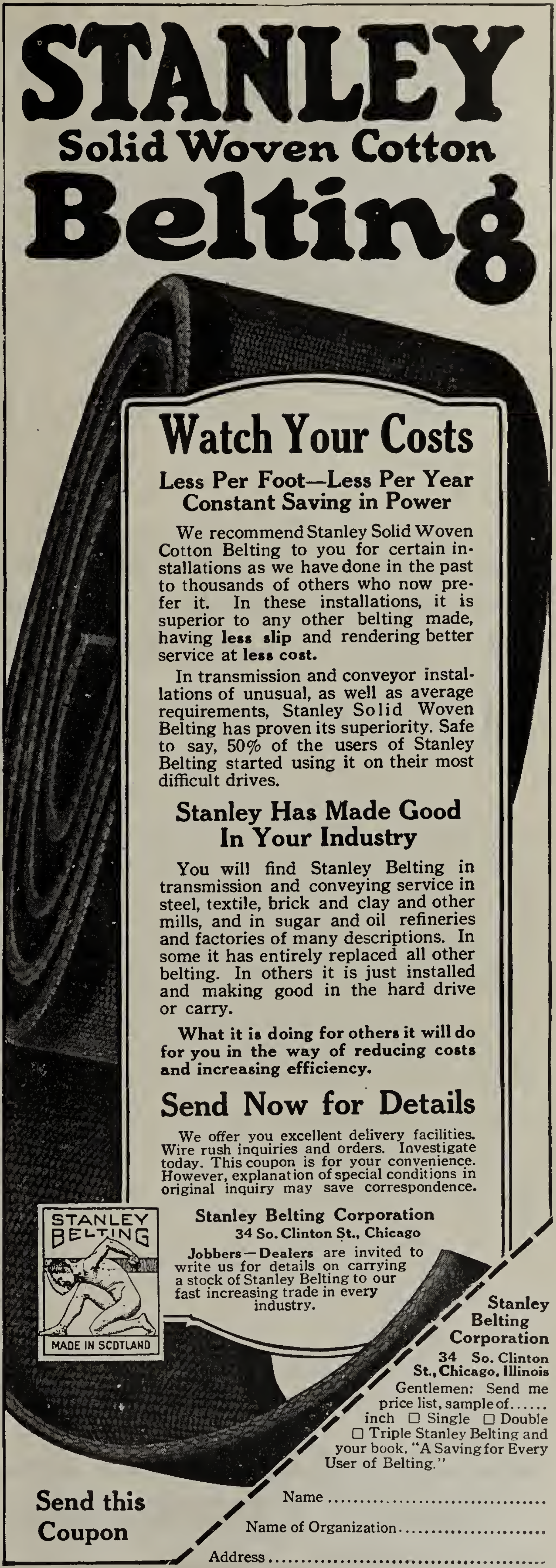
4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

Edwin G. Zorn.

(Signature of editor, publisher, business manager, or owner.) Sworn to and subscribed before me this 25th day of March, 1921.

F. K. True.

My commission expires Sept. 24, 1924.



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You will find Stanley Belting in transmission and conveying service in steel, textile, brick and clay and other mills, and in sugar and oil refineries and factories of many descriptions. In some it has entirely replaced all other belting. In others it is just installed and making good in the hard drive or carry.

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The Barrett Lift Truck in use at the plant of the Batchelder-Wilson Tile Co., Los Angeles, Calif.

The Largest Single Factor in Reducing Handling Costs of Clay and Cement Products

HANDLING tile and other clay and cement products has been immensely simplified by the Barrett Lift Truck.

The Barrett is pushed under the loaded rack or platform, a single stroke of the handle lifts the load, and on the large Hyatt Roller-Bearing wheels it rolls gently and easily.

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Send for circulars and information on Barrett Lift Trucks, Portable Cranes, Powerox (Gas Tractor), and Barrel Trucks.

Barrett-Cravens Company
166 N. Ann St., Chicago. Grand Central Palace, New York
Distributors in all principal American and Canadian cities

BARRETT LIFT-TRUCKS

MACHINERY *and* EQUIPMENT

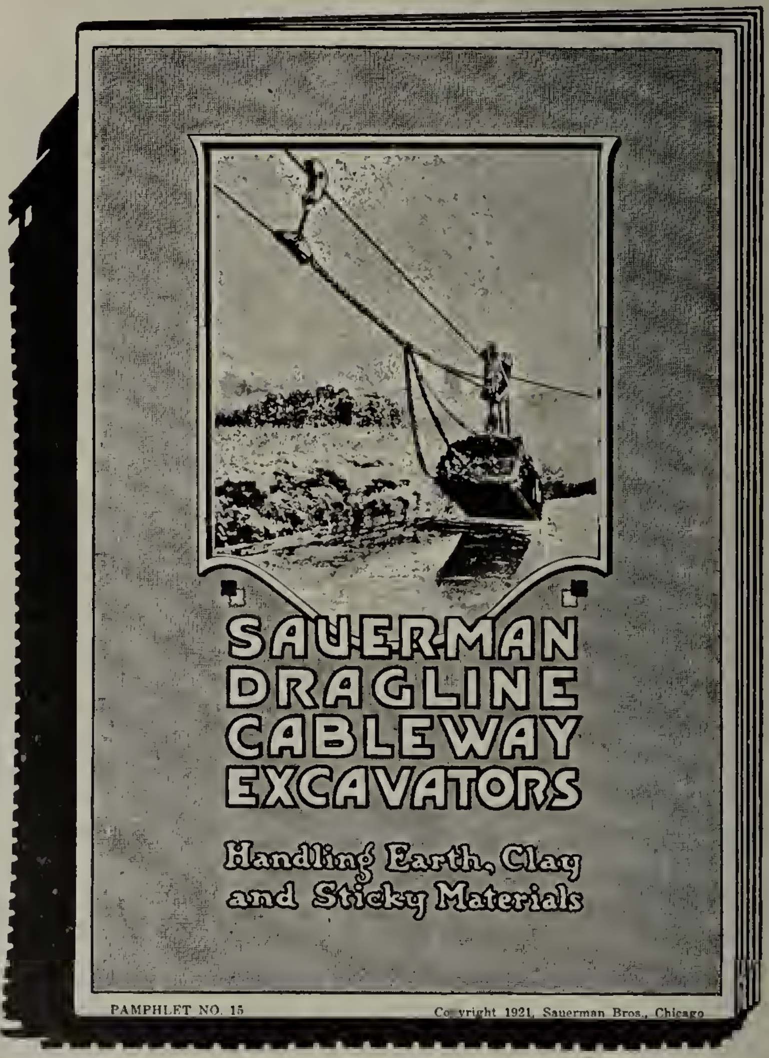
Modern, Sewer Pipe Plant

Here is a picture of a modern sewer pipe plant. The press shown in the foreground is one of the "Built Right, Run Right" line and it has been giving faultless production from the day it was installed.

In the background is other machinery of the same make and altogether it is a well arranged, splendidly equipped and modern sewer pipe factory. Those interested in the manufacture of sewer pipe or other clay products will do well to write the manufacturers.

Modern Sewer Pipe Plant

Some concerns with clay difficult to work are making brick and tile on a sewer pipe press. The "Built Right, Run Right" line of clayworking equipment is built by the Hadfield-Penfield Steel Co., Bucyrus, Ohio, who are always pleased to advise and assist in any clay problem.



SAUERMAN DRAGLINE CABLEWAY EXCAVATORS

Handling Earth, Clay and Sticky Materials

PAMPHLET NO. 15 Copyright 1921, Sauerman Bros., Chicago

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The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

WHY NOT MAKE MORE ROOFING TILE?

ROOFING MATERIALS of many various kinds have come into the market in recent years, some with great success and others with no popularity. However, even the best of these roofing materials have failed to give the public the same satisfaction that clay roofing tile can.

Magnificent homes and buildings constructed of otherwise beautiful building materials have failed to realize their full possibilities in beauty and value because of the owner's desire to save money on the roof. These buildings make the same impression as a fashionably and well dressed man with a cheap, inappropriate hat on his head.

Even the best of prepared roofing material will give the house that sort of "baldheaded" appearance, which is really ridiculous. However, this situation continues because of the efforts made by manufacturers of prepared roofing to get business and because of the lack of appreciation on the part of the public of the value and economy of clay roofing tile.

Clay roofing tile is not expensive. Most people think that it is. However, there is one angle that should be considered in the building of a residence, and which, if it were considered, would put tile in a more favorable light, and that is the simple principle of the value of money. Money is worth so much because it is capable of earning so much. If with this in mind, one will go into the insurance problems and find the savings which can be made by having a tile roof, he will find that the amount often actually exceeds the value of money invested for roofing tile.

Then again, the problem of the market value of the residence, which everyone will agree is greatly increased by tile, should be considered. There is probably not one person out of a thousand, who is going to buy a home that is already built who would not be so favorably impressed by the added appearance due to tile that the extra amount invested would not be a consideration.

The secret of success of one builder of bungalows in the city of Chicago, is due to the fact that he has been putting a higher grade roof on his buildings than is the custom. He used a French pattern of cement tile that was a fairly good imitation in appearance of clay roofing tile. His experience was that he could sell his homes for a consideration much higher than that of any builder of the same class of home, simply because of the added attractiveness brought about by the roofing tile. The difference in the price he obtained for his buildings and that obtained by a competitor exceeded the cost of the roof.

This builder recently stated that on future buildings he would use clay roofing tile which he felt would result in greater satisfaction and give an added value to the homes he would build.

Other builders, if they were familiar with the value of using roofing tile as the above mentioned party is, would make greater use of this material. There is no reason why there should not be $10,000,000 worth of clay roofing tile sold in the United States annually rather than the small quantity that is now manufactured at a value of $900,000.

* * *

REPLACEMENT AND REPAIRS

CONTINUITY of service is more and more being looked upon as an essential feature of the small plant as well as the large installation, since it is not so much the cost of repairs, as it is the loss of production due to the machinery being shut down that makes interruptions of service costly. Machinery of any kind, whether mechanical or electrical, is like a human being—it requires care and needs rehabilitation every once in a while.

Maintaining machinery or replacing obsolete equipment with modern apparatus, is becoming generally recognized as being usually a good investment. Increased production, decreased cost of maintenance and replacement, safety, increased life of equipment, better ware, cheaper production, and so forth, are features that recommend the proper maintenance and the replacement of obsolete equipment with more modern machinery.

When a machine shuts down and throws fifteen men out of employment, it does not take many minutes for such a shutdown to run up into huge costs for idle time. It cuts a big hole in production costs and yet there are concerns who hesitate in junking obsolete machinery that habitually breaks down, when all things considered, it would be cheaper to install new machinery. Moreover, equipment that is regularly inspected and repairs made when necessary, in the main, costs less to keep it in service than that which is looked after only after it fails to function properly. With an active season now facing the industry, deep consideration of these thoughts should be given.

* * *

USE THIS INFORMATION

THE VALUE of a business publication to its clientele is well known. It is a source of technical information, news of the industry, advice, suggestion, inspiration and enthusiasm. But one of its most valued and useful utilities is that which is often overlooked and neglected.

It is said that one of the values of a college education is its training the student how to acquire information on any subject that he may be interested in. By this is meant, that the value of a college education does not lie so much in what a person actually learns and remembers so far as figures, facts and dates are concerned, as it is the ability to know the sources of this information and to be able to locate, judge and use it.

However, it should not be necessary to go to college for simply this training. There is no reason why anybody should not be able to make good use of the voluminous good literature available on almost any subject upon which one might desire information.

Many articles have been published at various times in *Brick and Clay Record* that have expressed in a clear, beautiful and conclusive manner, the value and utility of various types of clay products. Some of these articles were written by authorities and men whose names carry considerable weight. Parts of these articles might be used very effectively in advertising literature prepared by the clay product manufacturer.

This has been and is being done by some producers who have seen the possibilities and have learned how to make use of this literature. However, we do feel that the industry as a whole has not learned to appreciate the full possibilities of the opportunities in this direction. The clay products manufacturer will do well to consider the service that all future articles he reads might be to him in promoting the use of his product.

PROPOSALS WILL REMEDY HOUSING SHORTAGE

Clay Manufacturers Are Urged to Enlist Support of Other Business Men and Create Demand for Materials by Using Plan Outlined in Article

SUGGESTIONS—hundreds of them—some good and some bad, have been made to aid in the solution of one of the most significant problems confronting the nation today. The lack of home building and the dwindling of home owning have reached such proportions that it has become a national menace.

After every suggestion thus far made has been sifted, there are two proposals that stand out preeminently as affording the most practical and best way out of the national dilemma. Both of these suggestions emanate from the well known publication in the building supply dealer field, "Building Supply News."

Excerpts from these proposals, which are simply an application of methods not new, but already known, are published below.

Every manufacturer of clay products is urged to not only lend his whole-hearted support to any undertaking by the building supply dealer of the proposals advocated, but is urged to start the ball a rolling himself in his territory.

EXCERPTS FROM "BUILDING SUPPLY NEWS"

"The hope of America yesterday, today and tomorrow, lies in the independence and stability of its homes," says "Building Supply News."

"A real home—of the true American kind—has a personality and individuality all its own. Its shelter, its architecture, its surroundings, however modest or elaborate, must be the direct expression and the personal property of those who inhabit it—or thrift, efficiency, social welfare and patriotism, the four corner stones of our national existence, will crumble to ashes before our eyes.

"The rent-paying tenant, whether on the farm or in the city, is the herald of social disaster and national disintegration.

"The 'flat hunter'—that human grasshopper, that malcontented nomad of civilization, is like his insect prototype, a waster and despoiler, never a saver or conserver.

"The 'boarding house' victim, with body, mind and soul alike stunted by the skimmed milk of professional landlordism and the slow poison of quick lunch quackery, is the easy dupe of radical, demagogue, and anarchist.

"The modern cliff dweller, like his ancestors, loses all natural relations with land and nature, as he climbs up to his crevice in the apartment sky-scraper, and locks his door against all the appeals of social, political and religious responsibility.

"In short, the man without a home of his own is today an outstanding menace, and in the light of the last seven years' startling decline in residential construction, is to every thoughtful observer a flaming danger signal of national tragedy.

URGE IMMEDIATE ACTION

"It is time that something were done about it—something adequate to the critical fact of the present situation,—and something that will not only bring temporary relief but permanently prevent future similar crises.

"Palliatives, half-way measures, speeches, bank bulletins and conversational "field-meets," boxing the compass of theory and reducing to a science the fine art of "passing the buck," get nowhere and only prolong and increase the difficulty in solving the problem.

"As a practical way out, for immediate initiation, we propose the formation of a National Build-Your-Home-By-Thrift League, with representatives and a branch in every town and city in the land that will afford a common and continuous point of contact for all civic and industrial organizations in any wise related to the field of home construction.

"We propose the Build-Your-Home-By-Thrift League as a purely voluntary medium of suggestion, publicity and inspiration, the sole purpose of which shall be to strengthen and correlate already existing forces in our business and social world and unify and vitalize their combined efforts by means of a common program of practical encouragement for the prospective home owner and home builder.

TWO PLANS SUGGESTED

"Now, two practical methods for starting the ball rolling are suggested and emphasized in recent events.

"First of all the surprising and unlooked for success of the Own-Your-Own-Home Expositions in Chicago, St. Louis, Omaha, Minneapolis and Philadelphia, which are to be duplicated shortly in New York and many other cities, carry an idea of timely suggestion to every other community in America.

"We believe that with no extraordinary effort, and without the outlay of any unreasonable expense, a thousand other towns and cities ranging in population all the way from ten thousand upward can and should plan to hold a Build-Your-Home Exposition, adapted in size and purpose to their own community, within the next sixty days,—and make it a permanent institution.

"Nothing would kindle public interest and restore public confidence and enthusiasm in regard to home construction more certainly and effectively than such an event.

"The one necessary thing today is the restoration of confidence and stability, the assurance of friendly cooperation of all factors in the building field, and the direct personal appeal to the eye and ear of the prospective home owner which can only be made thru the medium of a practical visual display and exhibit of model homes and home equipment.

ALL CONCERNED SHOULD ENLIST SUPPORT

"The Chicago Home Exposition proved that thousands of new homes would now be in course of erection in this city, if those who want to build and have the money, were only met half-way by those who have the materials, who furnish the labor, and who direct the construction.

"Every enterprise in your town that produces or sells building materials, home furnishings, domestic utensils, labor-saving appliances for the housewife, automobiles, victrolas, pianos, electric washing machines, and a thousand other items should be interested and represented in the exhibition.

"Every real estate firm, every bank, every mortgage investment company, every insurance company should likewise have a permanent part in the idea.

"The second suggestion is a move to develop a Nation-Wide Home-Saving Thrift Program that will secure the enlistment of millions now living in cramped flats and congested tenements, and give them a new vision and a concrete hope of entering the Home-Owning class within the next few years, by concerted and cooperative effort.

"At least 500,000 new homes comprise the augmenting natural need of the American people this year, without counting the millions more postponed by the world tragedy of the last half decade.

SHOULD BE PERMANENT PLAN

"Whatever is done this year, be it much or little, will not possibly take care of the fresh and equally insistent need of the next and all succeeding twelve months.

"In fact, and right here is the big and overwhelming reason for the Build-Your-Home-By-Thrift League, if every individual home that has been asked for or even wished for were built this year, it would include but a small fraction of those really needed in America today. We believe that, conservatively speaking, nine-tenths of the possible home builders and home owners thruout the land are still asleep or hopeless so far as this particular goal is concerned.

"We must arouse and instill not only a new hope but a new and confident resolve in the minds of these home starved millions.

"The awakening of their minds and hearts to this ambition, and the fostering of these ambitions to practical realization is the big vital job the business interests of America have got to tackle and put across within the next decade, or face increasing social disorder and anarchy.

"Every step taken toward this end today and everyday this year will have two effects; one immediate, the other permanent. The immediate effect will be the encouragement of home building by thousands who can afford it now but have been caught in the eddy of public suspicion and hesitation.

$4,000,000,000 MORE HOME SAVINGS

"There are today some two billion dollars deposited in our building and loan associations thruout the country. This may seem a large amount but it represents really less than $80 for each American family.

"If each one of the four million households now living under rented roofs should save but $5.00 a week toward homes of their own, it would swell these loan deposits by a clear billion every twelve months and by the time each family had $1,000 to its credit, the new deposits would, on the same basis, exceed $4,000,000,000.

EVERY LOCAL BANK SHOULD BE ENLISTED

"Nor are the Loan Associations the only popular and effective mediums for promoting the home building thrift movement.

"More and more the progressive banks of every community are adding home savings or real estate loan departments.

"Every local bank, whether national, state or savings, should be vitally interested in the Build-Your-Home-By-Thrift League idea. Every bank should in some way participate directly in the work of educating the prospective home builders of your community.

"One very excellent but simple plan which has developed with remarkable rapidity and has won not only an unprecedented response on the part of home depositors in Chicago, but has attracted the attention of financial leaders in every part of America during the past sixty days is the "A Home of Your Own" plan instituted by the Corn Exchange National Bank, Chicago. (Described in April 5 issue of *Brick and Clay Record.*)

"To that end we propose to make the Build-Your-Home-By-Thrift League the fact dynamo that shall furnish the motive power of suggestion, news and experience by which every community in the United States and Canada may confidently enlist in the work of restoring the sturdy old Principle of Thrift to its rightful place as the life-insurance policy of American home life.

EVERY BUSINESS VITALLY AFFECTED

"Too long has this sterling virtue been derided and sneered at, pilloried upon the scaffold of contempt by the paid roustabouts of vice and dissipation.

"The old and glorious art of financial conservation should no longer be degraded to the level of the miser or the skinflint.

"The full glow of moral health and mental happiness can only radiate from the character or home that has learned the true principle of Thrift.

"The foundation of industrial or social prosperity is the proper and regular saving of some margin that shall provide for steady and permanent improvement and expansion.

"That is what the Build-Your-Home-By-Thrift League purposes to help accomplish in America.

"And that is the task to which we invite every progressive American business man.

"We are thoroly convinced of the supreme importance of this work and we are equally certain that it bears a logical and direct relation to the legitimately profitable development of every phase of American Business."

* * *

Federal Inquiry to Expose "Building Combine"

Considerable agitation and investigation has been going on in various large cities of the country in the last few months, in an effort to expose the alleged "building combine." The affair has now reached national proportions and Attorney General Daugherty has emphatically announced that he will clean up the business of the country and eliminate all irregular practices from the building industry. New York and Chicago are the cities in which the price-fixing combination is supposed to be most active.

Chicago has recently been made the base of operations for federal inquiry. One hundred agents have been dumped into the city with the instructions to sift to the bottom the alleged national conspiracy to fix building material prices. Hundreds have already been implicated on evidence gathered together by the investigators. As yet nothing definite has been proven and it is still a matter for conjecture whether or not the inquiry will come to naught. If such a combination of price fixers does exist, it is to be hoped that the guilty ones will be discovered and the combine broken up with all speed so that the honest manufacturer, dealer and contractor can reap the benefit of the added stimulation to building activity.

* * *

Coal Prices Being Maintained

The coal market in Chicago and thruout the central west continues dull. There is very little call for steam coal and practically none for domestic. Mine run has been selling for $2 per ton at the mines in some instances in the Indianapolis, Ind., market, $2.25 and $2.50 has been a common price.

In the Columbus, Ohio, market not more than ten per cent. of the mines are operating, but prices are being maintained nevertheless. There was some steam coal evident at $1.75, but the trade has apparently absorbed all that. Hocking lump is $3 and $3.50; Hocking mine run, $2.75 and $3; Hocking nut, pea and slack, $2 and $2.50 f. o. b. mines.

$3.50 to $4 are spot prices quoted on lump in the Eastern Kentucky market. Mine run is bringing $2.65 to $2.85; screenings, $1.90 to $2, except in the Elkhorn districts, where the fields are competing with West Virginia markets, prices there are twenty-five cents or more below the others. On April 11 prices were reduced $0.50 a ton in Jeffersonville, Ind. Western Kentucky coal is now being quoted at $7 a ton; mine run, $6.50; $6 a ton for nut and $5.50 for slack.

Cleveland Preparing Big Building Show

A mammoth building exposition, that will serve the dual purpose of increasing interest in building generally and home building particularly, and that will indicate the growth of the community from the log cabin stage to the present metropolitan aspect, will mark the opening of the Municipal Auditorium at Cleveland, Ohio, next September.

This was the decision of a special meeting of the Cleveland Builders' Exchange and allied organizations recently. It is proposed that the event last two weeks, and from present indications will surpass even the first complete building show, here in Cleveland in 1916.

The exposition will be held not for profit, but any surplus will be divided among the exhibitors. Ralph P. Stoddard, secretary-manager, the Common Brick Manufacturers' Association of America, and E. C. Roberts, secretary of the Cleveland Builders' Exchange, are the leaders in the plan.

BUILDING MATERIAL PRICES *in* GOTHAM STILL DOUBLE PRE-WAR LEVEL

ONE YEAR AGO next month the peak in building material prices and construction costs was reached, as far as home building computations are concerned and the net charge to date that the prospective builder may expect to find as he enters the present day market represents a figure still far from the pre-war levels, according to the Dow Service daily building report of April 25, 1921.

In the first place labor does not now represent "eighty per cent. of the cost of construction." This is a legend that had its inception during the orgy of cost plus construction during and immediately following the war days. Competent small house or residence building specialists put the actual absorption of the building fund by labor at thirty-five per cent. due partly to the fact that labor is giving a bigger day's work for the money it gets.

DIVISION OF BUILDING COST

Dwelling house construction in the present market is being figured today by experienced, well rated, actual contractors doing business on a legitimate profit taking basis as follows: rough lumber fourteen per cent.; trim, fifteen per cent.; carpentry labor on job, fifteen per cent.; masonry, twelve per cent.; lathing and plastering, eight per cent; roofing, five per cent.; plumbing, ten per cent.; heating, twelve per cent.; painting, six per cent.; and electricity, etc., including wiring, three per cent.

The foregoing is for a $23,000 dwelling erected in Brooklyn in open market competition, low bidder to win and estimate being received very recently. For the purpose of ascertaining the precise position of present day building material prices for this operation, typical of the majority of similar building projects in all parts of the country, the engineering firm of O'Brien-Disbrow Co. in cooperation with the Dow Service daily building reports make a comparison with prices paid for the principle commodities entering into that sort of construction in the spring of 1915, and 1921.

COMPARATIVE PRICES OF BUILDING MATERIALS

The compilation shows the actual difference in per cent. between February, 1921 prices and that of February, 1915 and gives an illuminating comparison with the actual price difference between basic building materials today against those of only two months ago.

These prices are "delivered on job site."

Item	1915	1921	% Dif.	Apr. 15, 1921
2x4 Spruce M ft	$27.00	$ 62.50	131	$ 60.00
2x6 Spruce M ft	30.00	65.00	116	60.00
2x8 Spruce M ft	30.00	62.50	108	62.50
2x10 Spruce M ft	32.00	70.00	119	70.00
2x12 Spruce M ft	34.00	72.50	115	72.50
3x4 Spruce M ft	29.00	65.00	125	60.00
3x6 Spruce M ft	30.00	70.00	133	60.00
3x6 Spruce M ft	30.00	70.00	133	60.00
6x8 Spruce M ft	29.00	87.50	138	62.50
7/8x5½ roofers	21.50	40.00	93	37.50
N. C. Pine flooring	35.00	70.00	118	70.00
N. C. Pine flooring, Rift	58.50	110.00	111	125.00
Shelving	65.00	120.00	84 Av. 115%	120.00
Common brick, per M	7.00	22.00	214	21.00
Portland cement, bbl	1.75	3.50	100	3.50
Finishing lime	1.35	4.90	168	4.90
Nails Cut Keg	2.00	5.75	151	5.75
Nails Cut Floor Nail	2.55	5.95	151	5.75
Building Paper, Roll	.50	1.00	100	1.00

The computation as it applies to labor costs in 1915 and 1921 on this type of building construction is as follows:

	1915	1921
Foreman masons, per week	$35.00	$65.00
Masons, per day	6.00	10.00
Mason laborers, per day	3.00	7.00
Common laborers, per day	2.00	4.50
Carpenter Foreman, per week	27.50	55.00
Carpenter, per day	4.50	9.00

Prospective builders of homes have been bounced about by so many conflicting opinions regarding the advisability of starting operations or waiting that the building season is slipping by and with it the opportunity to purchase home building commodities at current levels.

PRICES STILL DOUBLE PRE-WAR LEVEL

Every kind of pressure has been applied to building material producers and distributors to force prices down, if possible to pre-war levels, yet, here in the middle of the spring of 1921, more than two years after the signing of the Armistice, building materials for the most part are still more than 100 per cent. above the level of 1915. Prices today, the table shows, rule below even those of February, and are, as a matter of fact, practically upon the 1919 basis.

From that point they will rise again, first, because the fuel conditions which helped in great measure to put building material prices up last year, are about to be repeated in the winter of 1921-22 and, second, there will be, in another three months, a growing pressure upon building material reserve stocks by large order purchasers, such as railroads, municipalities, commercial and industrial building requirements as to again put a premium upon deliveries. Lumber is already beginning to feel this movement at mill centers.

Bricklayers Accept Reductions

Hodcarriers and bricklayers of New Castle, Pa., have announced their willingness to accept a cut of ten per cent. in wages. The new scale for the hodcarriers is ninety cents an hour and for the bricklayers $1.12½ an hour.

HOW MUCH IT COSTS *to* HANDLE COAL

Actual Data on Unloading and Distributing Coal to Kilns on Various Clay Plants—Comparison Between Machine and Hand Methods

"THE UNLOADING OF COAL from railroad cars by hand shoveling, and its distribution by wheelbarrow, is another economical waste. The coal unloaders are not expensive to install or to operate, and if it is good business to unload fifty tons of coal a day by hand shoveling, why would it not be good business to throw away the engine or motor and put enough laborers on a tread mill or on a crank, and run the whole plant that way?" said Marion W. Blair in an article entitled, "Industry Needs to Apply Available Information", which was published in the March 8 issue of *Brick and Clay Record.*

This statement was challenged by the manager of an Iowa hollow ware plant who wrote, "I have read with interest your article by Mr. Blair in your issue of March 8. However, I do not agree with Mr. Blair with regard to coal unloading.

CANNOT FIND UNLOADING SYSTEM THAT PAYS

"For several years I have tried very hard to figure out some method of unloading coal by machinery, but thus far have been unable to find a system which would pay us to install. In figuring the cost of installation, I have always found that the interest on the investment will more than pay for the unloading of coal by hand, leaving little or nothing for the depreciation of the equipment necessary for such a system.

"The amount of coal we use annually amounts to about ten thousand tons and we are paying at the rate of fifteen cents per ton, for unloading same."

This letter was brought to the attention of Mr. Blair who answered as follows:

"In regard to handling coal by hand at fifteen cents per ton, beg to say that this is a very low figure, at this time, it means that one $4.50 man shovels thirty tons.

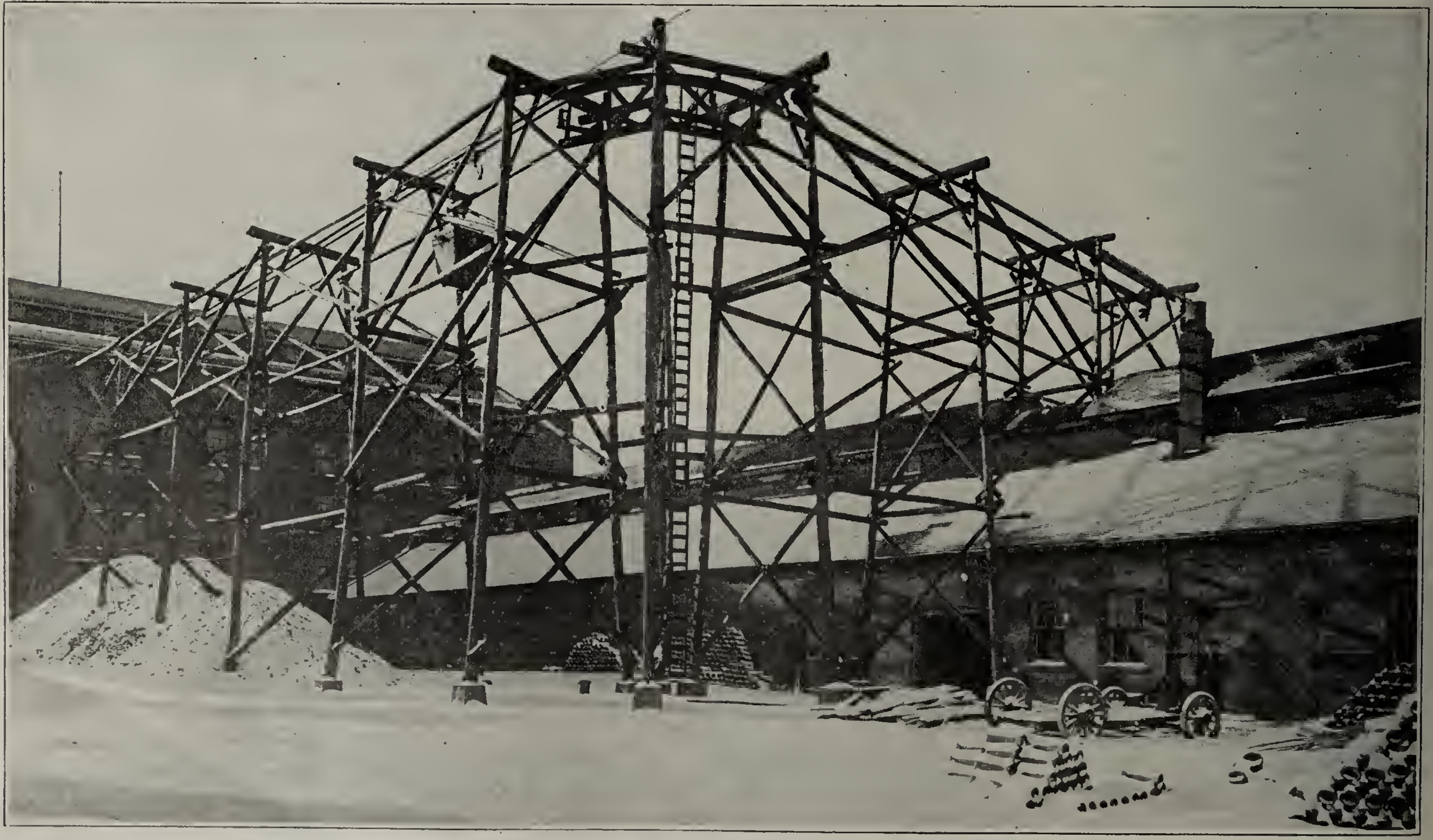
"The natural question of course is, where does the fifteen cents put the coal? On the ground alongside the car? Or, at the kilns? In other words, is this fifteen cents handling the only one or is it one of a series?

UNLOADER PUTS COAL IN BETTER POSITION

"The first handling by mechanical means would as this Iowa manufacturer says, cost that much in power, interest and depreciation—but it would put the coal into a bin or hopper from which the subsequent handling would be very much cheapened.

"He may say that his kiln firemen wheel their own coal on their idle time between fires, consequently the second handling costs nothing. You can readily see the fallacy of such a claim.

"It is probable that a mechanical handling of coal on the plant in question would not only dispense with the man doing



Coal Unloading and Distributing System Installed at the Dominion Sewer Pipe Co.'s Factory at Swansea, Ont. Bucket Travels Over Clay Storage Building and Deposits Coal in Convenient Place.

the first shoveling but would also reduce the kiln firing labor, for I do not believe that one man will fire fifteen tons per shift, and help wheel it too, but the firing alone would scarcely keep two men busy.

"You see here is one of the cases where the management must be able to grasp all the conditions before arriving at the conclusion that the installation will not pay."

MANUFACTURERS GIVE OPINIONS

Brick and Clay Record has on various occasions published articles on coal handling equipment, two very good ones being, "Coal Disposal from Cars to Furnaces", which appeared in the July 27, 1920, issue of *Brick and Clay Record,* and the other entitled, "Coal Handling Costs Cut", which appeared in the February 12, 1918, issue of the paper. However, as additional information, various manufacturers were written to and asked to give costs on the equipment which they were using. Some very good information has been unearthed in this manner, which will be of value not only to our Iowa subscriber, but to every clay plant operator in the country.

The following information was obtained from a letter written by Wm. H. Lucktenberg, of the Burton-Townsend Co., Zanesville, Ohio. This concern is using an electric driven motor with a Galion unloader. The unloader has been the means of saving about twelve dollars per day and in addition an endless amount of trouble on account of dispensing with labor. If it were able to keep this machine at work all day it is claimed that $20 per day would be saved at this plant.

To give an idea what the unloader is doing, the following information was added. One man driving a team with a two yard dump bed and one man who operates the coal bucket emptying the car is able to unload a fifty ton bottom dump car in about four hours. Figuring the team and driver at $1 per hour, for four hours would be $4. One man operating the unloader at fifty cents per hour would be $2 or a total of $6.

UNLOAD COAL FOR TWELVE CENTS PER TON

Fifty tons of coal cost about twelve cents per ton at this plant for unloading and hauling the coal probably a distance of one thousand feet for a round trip. It may cost from one to two cents per ton for power. Mr. Lucktenberg furthermore recommends the unloader unreservedly.

The Guernseyware Co. of Cambridge, Ohio, state that they have a coal unloader of the Galion type and an Elwell-Parker electric truck which is used in the distribution of their coal and the expense of handling a ton of coal with this equipment runs from about fifteen to twenty cents. However, many other uses are made of the truck so they feel that this equipment is very valuable to them.

Thomas Kennedy of the Dominion Sewer Pipe and Clay Industries, Ltd., Swansea, Ontario, Canada, has volunteered the information that coal is being unloaded on his plant with a Godfrey conveyor at a cost from five to six cents per ton. He writes:

"You will recall that we carry the coal over a building thirty feet high and place it quite close to our kilns; formerly it was thrown off by the railway track and had to be drawn up hill. Everything considered, we are saving at least thirty cents per ton."

The principle of the Godfrey system is to get coal from bottom dump cars into a chute underneath the railroad track, the chute conveying it by gravity into a bucket in which it is elevated and carried to a storage pile or an elevated bin or conveyance.

The mechanical units consist of a bucket of approximately one ton capacity, a two-drum reversible hoist operated by electric motor or other suitable power, a trolley operating on a mono-rail or cable-way, a steel chute with gates to control the flow of the coal, and the necessary sheaves, cables, and so forth, for making the connection of the various units.

TWO TYPES OF OVERHEAD TRACK

Two types of overhead track, namely the I-beam and cable-way, make the equipment easily adaptable to any one of a large variety of conditions. The principle and operation of both types is the same, while the choice depends entirely upon the local conditions which have to be met.

The entire operation is controlled by one man stationed at the hoist, which is located near the mouth of the track chute. This enables the operator to open and close the gate of the chute, which controls the flow of coal into the bucket.

The coal when emptied out of the cars, falls by gravity thru a specially constructed steel chute into the one-ton conveying bucket suspended on guide rails in a pit at the side of the track. When the bucket is filled the hoist operator closes the gate in the chute, thereby shutting off the flow of the coal into the bucket. The hoisting drum is then engaged, which raises the bucket to the required height. The operation of the traction drum of the hoist then moves the bucket along the conveyor track to the point where the operator wishes to dump the coal.

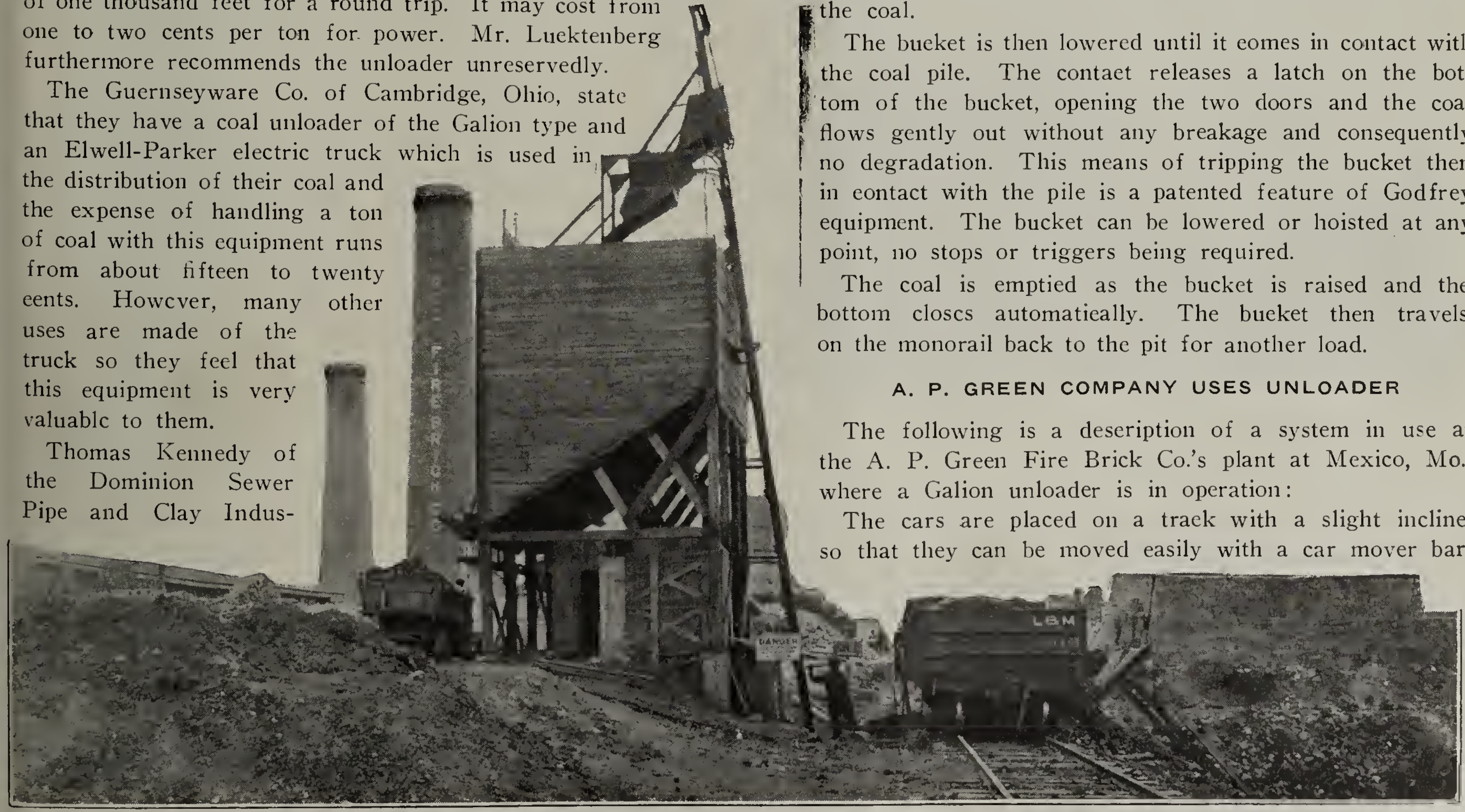
The bucket is then lowered until it comes in contact with the coal pile. The contact releases a latch on the bottom of the bucket, opening the two doors and the coal flows gently out without any breakage and consequently no degradation. This means of tripping the bucket then in contact with the pile is a patented feature of Godfrey equipment. The bucket can be lowered or hoisted at any point, no stops or triggers being required.

The coal is emptied as the bucket is raised and the bottom closes automatically. The bucket then travels on the monorail back to the pit for another load.

A. P. GREEN COMPANY USES UNLOADER

The following is a description of a system in use at the A. P. Green Fire Brick Co.'s plant at Mexico, Mo., where a Galion unloader is in operation:

The cars are placed on a track with a slight incline, so that they can be moved easily with a car mover bar.



Entire System of Unloading and Distributing Is Shown in This View. Coal is Dumped Into Bucket Which Elevates It Into Bin from Where It Is Dumped Into Auto Truck and Distributed to Kilns.

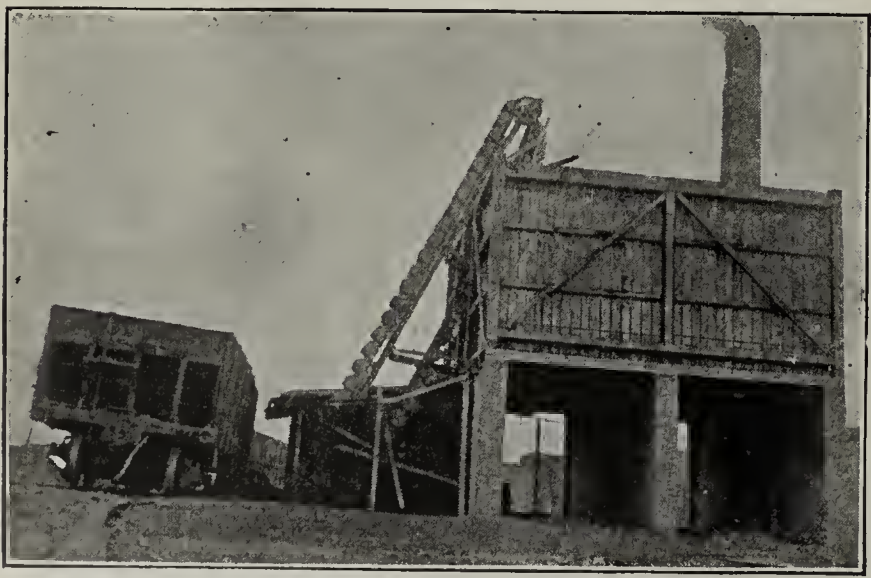
Beneath the track at the unloader there is a hopper built, into which the coal falls as the cars are dumped. This hopper is inclined on three sides, the fourth side is vertical, and has a gate by which the amount of coal taken out of the hopper is controlled. This hopper will hold about half a carload, but the size can be made to suit any local condition, with the provision that it must be made long enough and wide enough to take care of the dumping arrangements of the cars that will be received, and it must have steep enough sides to feed the coal to the gate without unnecessary additional labor. The work of dumping is done by one man to whom we will refer later as the dumper.

On the outside of the track next to the vertical side of the hopper referred to above, there is a pit, which is ten feet deeper than the hopper. The gate, also referred to above, really forms a partition between the hopper and the pit. A track consisting of two channel irons placed about four feet apart, extends from the bottom of this pit to and above the storage bin. On this track runs a bucket holding one ton of coal. A ⅝-inch wire cable is used to hoist the bucket.

APRON GUIDES COAL INTO BUCKET

The operator, to whom we will refer later regarding costs, stands on one side of the pit. In order to operate the unloader the bucket is lowered into the pit, the operator then throws a lever which places an apron between the gate of the hopper and the bucket. This apron is used to guide the coal into the bucket, and prevent any coal falling outside of the bucket into the bottom of the pit. The operator then opens the gate by means of another lever and allows coal to slide into the bucket. When the bucket is full the operator reverses the previous operation of the levers. He closes the gate first and then throws the lever which removes the apron. He is then ready to hoist the bucket.

The power is supplied thru a seven and one-half horsepower electric motor, which drives the hoisting drum by means of a chain. The clutch operating the hoisting drum is controlled by the operator thru a long lever arm. When he hoists the bucket to the top of the track, the two forward wheels of the bucket follow a short curved part of the track which extends over the bin. The rear wheels continue in the same straight line for a few more feet. The result is that the bucket assumes a dumping position, and the contents easily slide out of it.



Another Excellent Type of Coal Unloader Common to the Industry, Operation of Which Has Been Described in Recent Articles in "Brick and Clay Record."

The bucket at this point engages a lever which automatically throws out the clutch and puts on a brake which prevents the bucket sliding backwards down the track. This is the view shown in the accompanying illustration. When the bucket is empty the operator releases the brake by means of the same lever, the bucket returns to the pit along the track, and the same procedure is repeated.

BIN HOLDS 100 TONS OF COAL

The bin into which the coal is dumped holds 100 tons. On the side farthest from the railroad track, there are three chutes thru which the coal is loaded from the bin into the trucks. The truck can be seen in the illustration. A two-ton Autocar with end dump body, is used. This is especially suitable because its short wheelbase enables it to get around the kilns and dump the coal at equally advantageous points as with a cart. Pneumatic tires were tried but it was found that the cinders, etc., wore them out too fast and solid tires are in use now. The average haul is about 600 or 700 feet round trip, and a round trip can be made on the average in about five or six minutes. The yard is entirely paved with brick, which of course, increases the efficiency of the system.

The unloader and the truck will easily take care of 150 tons a day and the switch track is built with that capacity in view, by having room for three loaded cars on one end, and three empty cars on the other. The plant in full operation, however, uses not over 100 tons per day and the following figures on cost of operation are based on that output.

CUTS UNLOADING COST IN HALF

The dumper, and the operator referred to above each are paid $3 per day. On a basis of 100 tons per day this shows a cost per ton of six cents.

The wages of the truck driver, the gasoline and oil for operation, repairs, interest and depreciation on the investment equals about $9 per day. On the same basis of 100 tons this is a cost per ton of nine cents.

This makes a total cost per ton of fifteen cents. To this must be added about one and one-half cents for power and maintenance of power equipment. Before the installation of this unloader, the cost of unloading coal direct into carts and dumping at the kilns amounted to 30 cents per ton. This shows a saving, therefore, in favor of the unloader of thirteen and one-half cents, and on the basis of one hundred tons per day capacity, amounts to $13.50. For three hundred days this is $4,050 per year, which is very good interest on the cost of the entire equipment described herein, about $3,500 exclusive of the cost of the siding.

There is another saving which is hard to express in dollars and cents, but which is nevertheless very real. This is the fact that there is always a supply of coal at the kilns, and even if the weather is bad for a day or so, enough coal can be hauled to keep the kilns going without any setback. Of course this increases efficiency in economy, volume of production, and quality of output.

* * *

High Freight Rates Retarding Building

Advices received from the Dow Service daily building reports state that building material price reductions cannot alone revive big-order building movement. Freight rates must also come down from their high level which at present shows an increase of 110 per cent. average, on rates between New York and the Lehigh Valley, from where a large part of the building material used in the East comes.

Building material consumers are beginning to notice that an increase of 152 per cent. in shipping a barrel of cement, for example, means an increase of 25 cents a barrel in cost to them and that a 100 per cent. increase in the freight rate on hollow tile means about 4 cents increase for the average-size building block. In some cases the present high freight rates on building materials amounts to more than the factory cost of the materials themselves.

It HAPPENS EVERY DAY

A Short Entertaining Article Dramatizing the Clay Business That Will Give You Five Minutes of Enjoyable Reading

By A. G. Ruppert

TO THE AVERAGE CLAY products manufacturer, superintendent, engineer, or artisan taking clay or shale from the arms of the earth and evolving from it blocks to pave the highways of the world, brick to build great factories and the homes of myriad peoples, tile to drain the fertile fields, and porcelain and pottery for almost innumerable purposes—all this represents, to the man on the job, hard work beset with many difficulties.

But to the man who can disassociate himself from the picture, there is much of the dramatic in the successful operation of a clay plant. This man sees the feverish activity around the clay plant, the men working like moles around the clay pit or mine, and hears the humming of machinery, thru the eyes and ears of romance.

Now and then it does us all a world of good to be able to see the picture thru an artist's eye—to feel the thrill of theatrics, as it were, when we are a part of the subject. In this issue of *Brick and Clay Record* we present an innovation—something new in the field of trade and business journalism; a one-act play, entitled, "It Happens Every Day," written in an enjoyable mood, and centered around one of those unforeseen incidents which disrupt production and morale when they strike the average plant.

The moral of the play, well, our modesty forbids disclosing that, and our pride prevents our excusing it. At any rate, you'll find a bit of wholesome sentiment, a spice of humor, and five minutes of entertainment; and it will give you a good idea of what an artist sees in a clay plant when everything's going "dead wrong."—*Editor's Note.*

IT HAPPENS EVERY DAY
"BILL'S BREAK DOWN"

A one-act play? Nix! Just ten minutes of by-play for all the Bills and Jims and Lotties *de luxe* who know the worth of a smile.

ACT 1.

Time: 4:30 any busy Wednesday.

Locale: Any old brick plant.

Dramatis personae: Bill, Jim and Lottie, of Jones & Co., Bricktown; also Grant, of Blakeson Co., Chicago.

Other characters: Tom, the truck driver; Pete, the mailman.

SCENE 1

Interior of main office, which is situated about 100 feet from the main plant. Nothing sumptuous here; but a neatly designed, one-room brick affair, with tile roof, and an interior plainly furnished, but tidy. Several large windows lend a light, cheerful atmosphere to the setting. A large oak desk occupies the center of the floor. At this desk sits Bill, the president's son, who is gradually taking over the management of the business. Bill is something of a big party all by himself—a large body with an opulent waistband, sporting also a big head, big hands, he-man feet, red hair, ruddy complexion and a regular brickmaker's smile.

From the northeast corner of the room comes the rapid click-click-clickety-click of type bars expertly driven by nimble fingers; at this desk sits Lottie, better known as Her Stenographic Highness, or Bill's secretary *de luxe*. Apparently, the world held no worries for this typical representative of a new and ascending royalty. From the top of her electrically marcelled, yellow head (kept permanently wavy at five bucks the week) to the tips of her No. 2-A black suede Parisian boots, Lottie exhibited all the aristocratic elan of her profession—trim as a Rolls Royce, with her lower jaw working noiselessly on all sixteen cylinders, converting spearmint into baseball clubs and tropical island possessions for the pleasure and edification of a lucky guy named Wrigley.

From the distance comes the chug-plug-chug-plug of engine exhaust and the faint hissing of escaping steam, with now and then a rambling as of low thunder as a fresh batch of brick hits the freight car floor where the shipping gang is tossing and stacking.

Presently, Bill, who has been running thru the preceding day's production sheets, lifts them up, taps the edges gently to align them, and breaks the verbal silence.

Bill (cordially): " 'S pretty good life, with all its faults, eh, Lottie?"

Lottie (sophisticatedly): " 'S not bad, mebbe; anyway, it's the best we got."

Bill (looks puzzled): "Whatsamatter? Gettin' pessimistic?"

Lottie (sighing): "Naw, nothin' like that; just tired.",

Bill (cordially): " 'S pretty good life, with all its faults, eh, once 'n a while."

Lottie (indignantly): "Say, that's the trouble. Las' night was *too quiet*—them nights off gimme the jimmies. Just like a society dame gettin' *ongwee*, Bill, from too much of nothin' to do. (Sighs encouragingly.) Thank heavens, tonight 'll be different."

Bill (seeing the light). "That's it, huh? You're hintin'. Wanta get off so's you can get dolled up in time to head the procession?"

Lottie (excitedly): "Can I, Bill? You know I'll run this old baby," pointing to the typewriter, "ragged with speed tomorrow, Bill!"

Bill (looks at watch): "Four-thirty-five. All right, beat it; but don't come in in the mornin' with a tombstone color and one of them 'I-wish-I-could-die' signs in your eyes. 'Member, now; this ain't no health-recuperation' resort—thisizza brick yard, get me?"

Lottie (closes her desk, powders her nose, jams on a little brick red hat, slips into a short, glazed-tile colored squirrel skin coat, and has her hand on the doorknob in less than two minutes): "Lordy, Bill, you're good to me. *Are you that way at home?*" (Snickers.)

Bill gets up, sticks his thumbs contentedly in the armpits of his vest, struts to the window for a view of the plant, and, after one satisfying look, reverses his steps and walks to the opposite side of the room, opens door of cloak hall, puts on his hat and slips into a light topcoat.

Bill (to himself): "Home now, James, for an early dinner, and afterwards a treat for the little lady and kinders. Let's see: what'll it be?" Ponders a minute. "By golly! Just the stunt!" Goes to desk, picks up 'phone. "'Lo, Mac! How's 'Way Down East?' Some picture? Best ever? Magnificent? Hush, Mac; spring's here; save that stuff for your truck-patch. It'll grow beans 'n' everything! Ha! ha! Anyway, save me four seats, Mac; best you got. So long."

Starts to door, which is unexpectedly opened from the outside. Superintendent, named Jim, built like a second Abe Lincoln and just as handsome, enters.

Jim (drawling in his I-never-can-get-excited manner): "'S tough luck, Bill. Old No. 2—the Blakeson jaw crusher, y' know—died dead; plum give out, keeled over, paralyzed, by gum! Gotta heavy rock in the last bunch of material—broke the breaker plate and stripped the little gears clean as a whistle! Happened 'bout a half hour ago. Didn't wanta worry you. Phoned from the shack—to every machine shop in town; the best any of 'em can promise is they'll send out a man to inspect the job. You know what that means: No. 2 brick machine down two days for repairs. 'S too long. We gotta get action."

Bill (energetically whips off top coat, slams hat down on desk, stares at Jim perplexedly): "You mean to say No. 2 crusher's shot—splintered—spavined—flabbergasted for keeps? An we ain't gotta extra set of gears in the plant—nor a breaker plate—nothin'?"

Jim (uneasily): "'S not my fault, Bill. I toldja two months ago—an' last week again. You said you planned to scrap No. 2—'member? Wanted a late model—more production, I b'lieve!"

Bill (conscience stricken): "Omiyes! What an idot I've been! I put it off—don't know just why—just did! D——n!" Walks to other side of room, against the wall of which stands a big library book case. "Look!" he cried, in exasperation, pointing to its contents of technical reference mediums, catalogs and miscellany. "Look!" he yelled again, sweeping his hand over a section holding catalogs of every description. "There's the reason. Most of 'em are years old: I could hunt for a week, an' then mebbe not find what I want!"

Jim (suggestively): "Guess you're right, Bill; but sometimes we gotta take what we can get. Half production's better 'n none—an' we're broke down now."

Bill (excitedly): "What'll we do?"

Jim (quietly): "Thought we'd better put in a long distance call and get the builder of No. 2 to send a special messenger down with the parts tonight."

Bill: "You mean have 'em checked ahead as excess baggage on the messenger's ticket?"

Jim: "Sure. The flyer that reaches here at midnight leaves Chi at about six o'clock. We could meet it at the station with the truck, rush the parts out here, an' have No. 2 growling again by two-thirty in the mornin'."

Bill: "Jim, your head's long as your body; good idea. It'll save us forty thousand production in the two days these local guys would be stallin' around makin' the repairs. Let's go!" Rushes to phone.

Jim (advisedly): "Better ramble easy, Bill, till we get the code numbers outta Blakeson's catalog. Old No. 2's an obsolete style—an' you know what that means to them white-collared birds flyin' 'round like chickens with their heads off in big city offices."

Bill (exasperated): "Ohellyes! You're right, Jim." Walks quickly back to library case. Runs finger hurriedly over books in section marked "B." "Blakeson, Blakeson, Blakeson," he repeats, meditatively. Abruptly he straightens up with a jerk. "We're licked, Jim; we're licked! Doggone it, man, damfino what we'll do now?"

Jim (seriously): "What's up, Bill? Ain't it there?"

Bill (listlessly): "Sam Brown was over yesterday from Rockdale—twenty miles away an' the roads hub-deep in mud; wanted Blakeson's catalog; expects to buy a new table cutter—kinda feelin' his way along, y' know; so I let him have it." Hesitates; perks up with an idea. "Might take a chance, Jim. Let's phone Blakeson's anyway." Picks up phone. Puts in call. Relights cigar. Paces room.

Jim (opening door): "Back in a minute, Bill; wanta keep things movin'." Exits to plant.

Ten minutes pass. Bill's nervousness increases, as he mutters to himself, "Forty thousand production lost—when we need every brick we can make, rotten luck—worse 'n that! I'd have better spent a week at solvin' them catalog puzzles than have this happen. Omigosh! whatta halt! Omigosh! whatta—." Phone rings, just as Jim enters door on return from plant. Bill grabs up receiver.

Bill (tensely): "Yep! This is Bill—Jones & Co., Bricktown, y' know, Old No. 2—wore out, I guess . . . . Been a good old war horse—Faithful steed—but all shot now! . . . . Can't you get parts down by special messenger tonight? . . Great favor . . . Never mind the cost, I need the goods! . . . . Let messenger check 'em ahead on his ticket as excess baggage! . . . What? Can't do it? . . . Five o'clock—an' everybody's gone? . . . Tomorrow mornin'? . . on the 'leven o'clock special? . . . . Get here four in afternoon? . . . . Best you can do? . . . . Alright; 'S my loss . . . . For God's sake don't fail me! . . . . Thanks, old top . . . . S' long!" Puts down receiver with a bang. Turns to Jim. "Pass the weary word along to the boys, Jim; but keep both the night and day crew for No. 2 on the job." Muses: "Twenty-four hours' production lost; pay 10 half idle men full time. Some nick in this month's profits—*some* nick!"

Jim (sympathetically): "'S all wrong, Bill; 's all wrong; but whattawe gonna do?"

Bill (nonchalantly): "Foot the bill." Puts on coat, dejectly. Goes to door. "Good-night, Jim."

Jim (cheerily): "Don't worry, Bill; the first hundred years are always the hardest, y' know. After that it's easy! So long, Bill!"

SCENE 2

Same as on previous day; time 3:30 P. M.

Bill and Jim are in conference at big desk, which is cluttered with a multitude of catalogs of multifarious shapes and sizes—big catalogs, little catalogs, unabridged, and miniature; thin, thick, limp-backed and stiff-backed catalogs, gilt-edged, plain-edged and ragged-edged; printed in a variety of types and on paper to match all colors and intermediate tints of a rainbow. From the far-off corner comes the incessant clickety-click-click-clickety of type bars driven by Lottie's deft touch, as they fall on the face of the manuscript.

The sun filters pleasantly thru the west window. Suddenly the door is opened and (rural delivery) mailman thrusts a genial but weatherbeaten countenance in the aperture. "'Lo, Bill," he calls, cheerily: "'Lo, Jim; 'lo, Lottie! Fine day to keep us company, eh?" Follows a chorus of "Howdy, Pete! Betcherlife 's a fine day." The door closes. Lottie picks up mail; sorts letters from second-class matter; but the big desk is piled so high with sales' literature that she pauses, apparently awaiting Bill's instructions.

Bill: "Put the letters on your desk, Lottie; no time for 'em now; papers, too."

As Lottie moves to follow his advice, Bill notes a familiar wrapper among the bunch of second-class mail. "Wait," he says, picking out periodical enclosed in particular wrapper. "Jim," he adds, "there's one friend who never fails—always on the job, rain or shine, fair weather or cloudy—ol' *Brick and Clay Record;* been comin' to us now over twenty years—seems just like one of the family—saved us thousands of dollars. While we're running thru catalogs, let's sample these advertisements, an' also look over the superintendent's department; may get a live-wire tip."

Jim (with some enthusiasm): "Right-o, Bill! Like the medicine ads say, when all others fail, try *Brick and Clay Record*—one trial convinces. Pretty good advice, at that, for ol' *Brick and Clay."*

Bill and Jim pull their chairs closer together, chummy-like, and Bill starts to thumb the pages interestedly. Pauses over one page; glances knowingly at Jim.

Bill: "Not a bad idea, Jim; give 'em credit for springing somethin' new."

Seems suddenly excited. "What's this?" Reads, sketchily: "First *complete* buyers guide ever published for clay products manufacturers—name of all manufacturers who supply clay products field alphabetically listed under each commodity they manufacture." Pauses; wrinkles brow in contemplation. "That *means* something!" Reads again: "Clay Products Industries' Encyclopedia and Buyer's Guide' will also embrace a modern encyclopedia covering every subject of interest to clay products manufacturers, their executive associates and engineers." Whistles softly. Turns to Lottie. "Remind me of —"

Fate breaks in on our good intentions just like that ever so often. Bill had begun to tell Lottie to remind him that he wanted two copies of that encyclopedia and buyer's guide; but at that instant there came across the hills the herald-call of the incoming flyer—whoo-o-!—hoot! hoot!—whoo-o-o! Bill fumbled for his watch.

Jim (anticipating Bill's query). "'S all right, Bill. Tom's got the truck down at the station. He'll have them parts out here in a jiffy."

Bill gets up, stretches, appears somewhat concerned. Goes to window. Lights cigar nervously. Keeps eye glued down the road that leads to the station. Five minutes pass. Then the nose of the truck appears 'round an elbow in the road a quarter mile distant.

Bill (excitedly): "Listen to that baby puff comin' thru the mire—Tom's givin' her all the gas she'll stand."

Bill, Jim and Lottie rush expectantly outdoors. Tom jams on the brake, and the big five-ton Mack groans to a stop, her exhaust panting softly and rhythmically as a greyhound after a sudden sprint.

Bill (feverishly, before Tom can dismount): "Didja get 'em, Tom?"

Tom (with cocksure bravado): "We allus get what we goes after, Bill."

Bill (jubilantly): "Hooray!"

Lottie (echoing, from doorway): "Hooray! No moss on Tom's back, Bill!" Brings a sheepish grin from Tom.

Jim (a little anxiously): "Let's see 'em."

Tom wrestles with a couple of heavy gears, which had been tagged and expressed unpacked, drops them to the ground, and then lays two extra breaker plates beside them. Jim takes one serious look, then grunts his disgust.

Bill (puzzled): "'S matter, Jim?"

Lottie (giggling in doorway): "Looks like a crepe on the door, don't he, Bill? Mabbe he's mislaid his flask of Green River."

Jim (solemnly): "'S all wrong, Bill; them parts ain't never been made for *our* No. 2; nope, 's all wrong!"

Bill (clasps right hand to his forehead and reels like he had been hit with an unexpected but well-aimed brick): "Omigosh, Jim! Omigosh!"

Recovering, Bill rushes into office. Picks up phone. Puts in long distance call. Chews viciously at cigar stub, Lottie goes to her desk, Jim takes seat at big desk, opposite Bill. Phone rings after five minutes of appalling silence. Phone conversation follows:

Bill (furiously): "'S you, Grant. 'T is, eh? Say, that stuff you sent me—'s all wrong—won't do! Great guns, man —!"

Grant (interrupting): "Won't do? Why, I sent you the correct parts for *our* No. 2 Blakeson."

Bill (more furiously than ever): "*Your* No. 2! Who ever mentioned *your* No. 2?—I said *our* No. 2 was down!—Dontcha know difference 'tween a code number and a brick maker's production unit?"

Grant (apologetically). "When you said crusher No. 2, naturally I thought you meant *our* No. 2".

Bill (sarcastically): "'Stead of thinkin' about it, why didn't you check up my old bill of sale an' make sure?—Rather take a chance, huh?"

Grant: "By golly, Bill, I'm sorry—"

Bill (breaking in): "So 'm I; but whatinell does sympathy buy? How many brick 'll it make me tonight?" Throttles anger; speaks more rationally. "Now, Grant, be a good fellow —you've got us into a mess—help us out—send right parts special messenger tonight!"

Grant: "Can't be done, Bill. 'S after five o'clock—everybody's gone—caught me locking up! Send 'em tomorrow—sure!"

Bill (savagely): "Sure?—or mebbe?—Good night!"

Bill hangs up receiver. Sinks dejectedly into depths of big chair which moans in a pitched key under its burden. Comes, then, from Lottie's direction an admixture of low, ominous, liquid, guttural noises.

Bill (in a frenzy of nervous rage): "Omilord, Jim! Omilord! Listen to *that!"* Imitates noise: "Crunch-wobble-slush-gobble-yum-yum!"

Jim (naively): "Must be good, Bill; must be good! By golly! If clay was chewin' gum, Lottie'd be some crusher, eh? Self-starter, neverstopper—an' no repairs to speak of."

Lottie (indignantly closes desk with a bang, slips into wraps, powders nose, and stops on threshold with hand on doorknob): "Poor men," with mock sympathy: "Can't shoulder their own troubles 'thout throwin' insults at a innocent, helpless woiking goil." Sarcastically: "'S great life, *boys;* but if you don't like it, why do you lead it?" Exits. Slams door—*bang!*

Bill (hollowly from head bowed wearily on chest): "Well —it happens every day to some one." Rises, stretches. "Let's go home, Jim; is all we can do." Yawns. "Ho! hum!"

Jim: "Wait a minute Bill! Had you not better make a note about ordering that encyclopedia?"

* * *

"Own Your Home" Exposition in New York

The third annual "Own Your Home" Exposition to be held in New York, arranged at the Twenty-second Regiment Armory, April 16-30, proved to be the most successful exhibition yet perfected by the organization. Greater crowds were drawn to the show than ever before. Particular credit is due to Mr. Robert H. Sexton, manager of the exposition, for the excellent and replete showing; nothing was missing in the line of home construction and furnishing to give the prospective house-owner a complete idea of just what could be accomplished with this or that sum of money.

Stress was laid on building materials of all kinds at the exposition, including brick and other burned clay products. The show was designed in the form of a miniature village outlined in panoramic effect on the canvas covering placed over the walls of the armory. This scene was supplemented by groups of small houses, built of brick and stucco, and other building materials.

Model homes were reproduced of selected building materials, based upon the prize-winning designs of a recent national "Small Home Competition," conducted by the exposition management with the approval of the American Institute of Architects. This contest offered $15,000 in prizes, and remarkable results were secured. The homes shown were of a character to cost from $5,400 to $9,500, and none over the latter figure.

In one section of the hall, a complete display of building products was arranged in different booths, including building brick, face brick, terra cotta and other burned clay products. This portion of the exposition attracted wide attention, and went to show the great possibilities of utilizing different standard products in dwelling construction. Another portion of the show was given over to savings and loan associations, and, in another section, home site and land companies had exhibits.

* * *

INDICATIONS ARE THAT COAL HAS REACHED LOW LEVEL *and* MAY REACT UPWARD

THE COAL SITUATION from the brick and clay product manufacturer's standpoint is one of the hardest that he has to contend with just now, and many of the brick men are seeking for information relative to the best course to pursue. One of the larger brick manufacturers in a recent interview on the subject said: "The chief difficulty is that the building situation is so unsettled that we are unable to figure out how much fuel we may need. If we contract for fuel we are facing three alternatives—first we may contract for a good deal more than we need, and find the market much weaker later on, before the contract expires. We would be forced to take the fuel. Then if we do contract and prices advance sharply we have no assurance that we would get the fuel we had contracted for, and might have to go out on the open market and buy it at much higher prices. Again if we do not protect ourselves in the matter of fuel, and others do, we may find later on if the coal market advances, that we are unable to compete in price with the brick or tile manufacturers who bought ahead. It is a complex situation at best."

OPERATORS THINK PRICES WILL ADVANCE

Investigation of a few outstanding features of the market show that the coal operator believes that prices will be much higher, and is working with that in view. One large Cincinnati producer and jobber, has been asking seventy-five to ninety cents a ton over the present spot market for contract fuel, and not anxious to take it at that, as he believes prices will be higher.

One of the most important features of the market is contained in the fact that the number of idle open cars is being slowly but steadily reduced as a result of larger tonnage movements.

The Louisville & Nashville R. R., one of the larger coal hauling roads and a large consumer, recently placed its 1921-1922 annual contracts, at prices well above present spot market prices, paying as high as $3.15 a ton for Eastern Kentucky four inch mine run coal, which on a spot market can be purchasesd at prices ranging from $2.25 to $2.50 a ton and slightly higher. Its prices paid for coal in Western Kentucky and Alabama were proportionately high. Here is a big railroad, well in position to gauge future car supply and demand, which has contracted for its fuel at higher prices.

BUYERS HOLDING OFF FOR LOWER PRICES

Tendencies are generally in the direction to hold off buying for lower prices. However, figuring freight rate increases and general increases in cost of operation, increased cost of mine labor, etc., and it must be remembered that mine labor contracts have a good while to run yet, there is not any real indication of coal prices going lower, or at least not materially so. They may be somewhat weaker for short spells in the next three or four weeks, but according to one large brick manufacturer: "There is no possible chance of prices being weaker in midsummer and fall months than they are now, as they are right about at rock bottom, and the operator is generally disgusted over the weak market."

Movement of coal is picking up but slowly. The publicity given to the danger of delayed buying overtaxing production facilities of mines, and hauling capacity of the railroads, is falling on barren soil. A few live thinkers are buying early, but many are not. The lake contractors and Northwest buyers are not placing any but fractional orders so far, altho the orders are now coming faster. Much of the lake movement will not start until June or July according to present calculations, and due to delayed buying it will force prices somewhat with current demand and general buying coming at the same time.

PRESENT CONTRACT AND SPOT PRICES

For the purpose of giving an idea of what coal operators think of the future market it is well to quote spot prices as compared with contract prices on straight mine run from three or four fields:

High grade gas coal—No. 1, spot price $2.25 to $2.85, wide range. Contract $3.50 firm. No. 2, spot price $2.25 to $2.50, contract $3.50 firm.

Non Gas Coal—No. 1, spot price $2.25 to $2.50, contract $3.25 firm. No. 2, spot price $1.75 to $2.50, contract $2.75 and $3.

There are several fields in competition with these in which the prices are the same.

One point that is well to bring out is that reduced wages in many lines and men out of work, will prevent early and heavy stocking of domestic sizes this year as during the past three years, which will result in late demand for such fuels, as the retailer will not be able to stock coal in advance of his demand, which promises to come late.

GENERAL FUEL DEMAND WILL BE HEAVY

Every indication is that general fuel demand will come late this year and will be heavy, with the result that production of mines and of railroads will be overtaxed. On the other hand industrial consumption continues light, but is improving. If industrial consumption, especially in the steel districts, continues really low, this may offset the late demand to some extent, altho steel mills are generally early buyers.

The brick manufacturer as a rule hasn't the capital to stock heavily in advance but where he can it looks reasonably safe to stock at this time. One brick man reports that he has stocked as heavily as he feels it is safe to stock, and will buy coal for current use until the market gets considerably higher and trust to luck for supply on hand to carry him over until the big demand is filled, and prices weaken again. That may be in November and December, or it may be next spring when the rush is satisfied.

* * *

Claim Rolled Stone Good Base for Brick Roads

Two representatives from the Federal Highway Bureau have been assigned to Ohio to investigate the use of a rolled stone base for the laying of brick roads. A good deal of this sort of foundation work has been done around Youngstown, and also about sixty miles of the National Highway east of Zanesville. The Ohio Paving Brick Manufacturers' Association is backing that sort of construction and urged the federal department to make the investigation.

In PRAISE *of* BRICK

Part of an Excellent Article by a Wilmington, Delaware Lawyer Which Appeared in the "Yale Review"—It Should Be Read and Kept on File by Every Brick Manufacturer

By Christopher L. Ward

THE MAN IN THE STREET has very vague ideas about architecture generally; but, if he be an American, of one thing he is quite convinced and certain—that for an American home there is but one fitting style, the colonial. Nor can it be said that this opinion is held only by the man in the street. It is widely diffused among many who pretend to some degree of aesthetic culture and informed taste. It is based on the ideas that the colonial is historically the distinctive American style, that it is peculiarly adapted to our climate and conditions, that it fits our habits of domestic life, that to our architects it is the vernacular, that to use any other is an affectation, a renunciation of our own institutions and hardly less than unpatriotic.

Is there any more reason why an American should confine his domestic architecture to the colonial style than there is for his confining his taste in literature or art to the books and pictures of the colonial period? It so happened that when the Americans first began to turn their attention to architecture, as distinguished from mere building, this style was in vogue. But it was exotic even in England. Originating in an adaptation of Greek motives by an Italian, Andrea Palladio, it did not become popular in England until the beginning of the reign of George the First. Therefore, even if we are to confine our architectural styles to those of English origin, this one presents no claim founded in indigeneity.

OUR ANCESTORS LACKED ARCHITECTS

It was not because it was so well adapted to our climate or way of living that our colonial ancestors adopted it. They lacked professional architects. The books on architecture most readily available to the American builder for the drawing of his plans were the then very modern English works, "Country Builders' and Workmen's Treasury of Design" by Batty Langley and "The Country Builders' Assistant"—thesauri of Palladian classicism. From these emerged the "Salem Doorwats," the details of cornices, columns, and interior woodwork, which many of us are accustomed to regard as essentially American.

On the other hand, the older English styles—Tudor, Elizabethan, Jacobean—were evolved from English beginnings which are lost in dim antiquity. Their lineage is English from times more remote than those of the Conqueror. If we count our civilization English and feel ourselves bound to adhere to English style, have not these styles a better claim to our acceptance than the colonial? That we have but recently recognized them, that we must adapt them to our conditions, that we may at first sometimes stumble in so doing, these are mere incidents, not arguments against their use.

WE NEED NOT FOLLOW IN OUR ANCESTORS' FOOTSTEPS

But the principal trouble with the reasoning of the upholder of the colonial style is that it is reasoning. He uses his intellect, instead of his aesthetic sense. He tries questions of good taste by historical tests, not by the canons of art. Because the carpenter-builders of Salem honestly rendered into sound woodwork the Palladian windows and other details derived from the Greeks thru Palladio and Batty Langley, we are to follow in their footsteps to the end of the chapter. Because they had no better models at hand, we are to eschew all others. It will not do. It is not even sound reasoning and, aesthetically, it is very bad advice.

What are the considerations to determine our choice of a style in domestic architecture? They are of two sorts—practical and aesthetic. First, then, of the practical. The practical value of a house depends upon the size, shape, position, and relation of its rooms—its livableness. These depend upon the thing which is the first, the earliest consideration of the architect—that is, its plan.

The essential element of the plan of a Georgian colonial house—of any building designed on classic lines and modelled after classic originals—is symmetry, balance. The main doorway must be centered in the principal facade, dividing the house into two equal parts. These two parts must be symmetrical. If there be thirty feet of building to the right of the front door, there must be thirty feet to the left. If there be a wing on the left of the main building, there must be an equal wing on the right. The windows must be of equal size and must be symmetrically placed.

SYMMETRY VERSUS COMFORT

The result may be pleasing to one's sense of order and harmony, but what about reconciling it comfortably with the requirements of domestic life? There is little elasticity, little opportunity to adapt the size, position, relation, fenestration of the various rooms to their particular and respective uses, or to the idiosyncrasies of the family which is to occupy them. The rigidity of the plan makes one recognize the truth of the statement of Geoffrey Scott, in "The Architecture of Humanism," that Palladio in his search for form was too reactionary, that his conclusions were too academic, too set.

"Architecture," says Mr. Scott, "is subservient to the general uses of mankind," and "it is legitimate to see in it an expression of human life." The general uses of mankind require a variety in the size and shape of its living apartments and in their position and relation, which cannot be obtained in the "frozen music" of the classic plan. Human life is not formal, balanced, and symmetrical. An architecture of such "calculated restraint" is not its fitting environment, does not express it. The foxes dig their holes and the birds of the air build their nests to suit their own needs. The builder of a colonial house pours his house into a mould, designed for him according to the laws of the ancient Greeks.

LET REQUIREMENTS GOVERN ARCHITECTURE

In the older English styles there are no such limitations. The hall, which is the focus of family life, is more or less centered, but the size, shape, position, and relation of the other rooms may be determined by their convenience and their respective uses. If it be desirable to assemble more or fewer rooms on this side or that, to draw them out in a wing here or there, to enter the house at this point or that, to vary the size and relation of the windows, it may be done. Modern human requirements, and not the architectural proportions of a Greek temple, are the determining factors.

And there is too much frank openness in the colonial plan, too little privacy. From a central vantage point one may usually see into all the first floor rooms. The plan yields its secrets to the most casual visitor. It has no reticences, keeps nothing back for future disclosure. It is like a man who tells you the whole history of his life at your first meeting. In the other styles the irregular plan allows of apartments remotely placed, reached by passage-ways more or less intricate, which need be discovered only to such as are eligible to intimate acquaintance with one's family life. There is an air, not of cold aloofness, but of well-bred reserve about such a plan.

COLONIAL STYLE DERIVED FROM GREEK

And now of the aesthetic considerations. Let us start with the material of which the house shall be built. Bear in mind that the Georgian colonial is a classic style, derived from the Greek. *Ergo* it should be built of stone, cut stone. All the details are copied from the architecture of classic Greece. Applied to modern houses, they are meaningless. Reproduced in wood, they are falsified and debased. Greek architecture was essentially an architecture of stone. Its Palladian adaptations were intended to be executed in stone. Only the poverty of the colonists forced upon them its rendition in cheaper materials, and only our blind following of false precedent perpetuates the ignominy. Hollow wooden shells, painted white, imitate solid marble columns. Cornices, capitals, entablatures, pediments, whose design and meaning demand marble, are turned out in wood and painted white. Here, then, is the cheapest kind of false art—the fashioning and coloring of one material to imitate another—a fraud which has vitiated the taste of millions of Americans without their knowing it.

For walls, either brick or clapboards are used. Brick is an unimpeachable material for domestic buildings when rightly employed, but when we build dull red brick walls and contrast with them the glaring white of column, pediment, and cornice, the result is far removed from the Palladian intention of harmony. The building is not classic in effect, but merely pseudo-classic in detail, imitation pseudo-classic at that. The heavy white cornice on the brick house is as inartistic, as un-Greek, and almost as funny as the huge white linen collar on the Mad Hatter. The white pediment, columns, and doorway against the dark red brick have the same value artistically as the white shirt-front on the negro minstrel. So much for the brick built colonial house.

AGE BEAUTIFIES THE HOME

But you may build entirely of wood. You will, if you want to escape the violent contrast of brick. The Circean charms of the colonial style seduce you to build in wood and paint it white all over. And now you are lost indeed. You are lost, because you must paint anew every two or three years. The economic considerations are not important here, because aesthetics has nothing to do with money, and this essay deals with the aesthetic relationship of the house to man and to its environment. What is important is that you lose the softening, endearing, ennobling touch of time. A new house is an abomination in the landscape, as every artist knows, unless it be of a hue so subdued as to look old. A newly painted house is a new house. Every time you paint it you lose all the effects of its age. Nothing but age will tame a new house, subdue it to its surroundings, make it part of the landscape. Time, the master artist, takes the new house in hand and with infinite and inimitable art, in his own leisurely fashion, proceeds to make a picture of it; every two or three years the master of a painted wooden house wipes from the canvas every trace of beauty in the picture.

Brick, on the other hand, yields to the touch of time so willingly, so graciously, that it mellows with the passing years into a masterpiece of color. Its texture becomes beautifully accentuated, its coloration varied but always harmonious. Year by year it grows better to look at, better to live in. No art can counterfeit the beauty of old brick masonry.

BRICK AGES GRACEFULLY AND WELL

Brick is the true material for men's houses. It is coeval with man. It belongs to the age of man and his domination of the earth. It is the product of his toil. It owes its existence to him. Fashioned by man from the dust of the earth, its relationship to its creator is sympathetic, grateful, cordial. Its honest face is instinct with homeliness, in the original sense of the word. Its sturdy appearance betokens its natural endurance, which is proved by the survival of the earliest examples thru six thousand years. Its form and size are pat for its uses. Its color is warm and human. It ages graciously and beautifully. The changes wrought by time upon its surface only dignify it.

It has not to be tamed nor wrought upon to induce its subjection to domestic uses. It has served man for ages. Its domesticity is complete. It is so domestic that it may be brought indoors, and its use in hearths and chimney breasts gives none of the feeling of awkwardness and impropriety which a similar use of stone in its natural state is sure to induce. Its small size and coherence give it a plasticity in mass which enables us to mold our houses to the desired shape with almost as much freedom as if we were working in its mother material, the clay of the potter.

This world will go the way of all worlds, die and become as is the moon—a cold and empty ball. All organic bodies will relapse into their chemical constituents, and the works of man will not long survive him. Not only will they fall in ruins but their very materials will disappear or revert to their preadamite condition. But after wood has rotted and iron has rusted and concrete has disintegrated and stone has become mere rocks, there will remain brick—the last survivors of man's handiwork. The lonesomest thing upon the dead planet will be this humble servitor of man, whose faithful endurance will put to shame the evanescence of its maker.

AGE OF STONE MEASURED IN AEONS

Stone is a prehistoric thing. It owes nothing to man except its exhumation and disruption and the form which he may give it. In itself, in its material structure, it is primal. It existed before man was, and it looks down upon him with cold austerity, as upon a newcomer and a disturber. The age of the stone which we build into a wall is measured not by years, like our own, nor by days, like that of the little brick, but by aeons, by millions of years, perhaps hundreds of millions. It comes from that far-off, remote, unhappy time ere man and brick were.

In the matter of domesticity, in its natural condition, it is to brick as the tiger to the harmless, necessary house cat. In its most usual state in domestic architecture, that is, merely rudely broken to size and shape, it is rough, hard, repellent, unsympathetic. Its disposition is that of the galley-slave chained to the oar, sullen, resentful, persisting in its new occupation only because it cannot escape. A brick lies flat and snug in its bed of mortar, consciously, cheerfully fulfilling the purpose of its existence, with a willingness and a static energy that are delightful to behold. It seems almost elastic in the tenacity with which it clings to its neighbor. It asks no more of the mortar than a flat bed.

STONE NOT AS TRACTABLE AS BRICK

The roughly broken or crudely hewn stone is almost dynamic in its resistance to conformity to its new conditions. Rigidity in its refusal to parallel its neighbors' equally irregular and unyielding outline is its outstanding characteristic. Only the compliance of the flexible line of the obliging mortar with its uncomfortable angularity, its preposterous assertion of individuality, saves the wall from disruption and ruin. So much is true of the stone of igneous origin at least. Some of the sedimentary rocks are more tractable. They are later comers on earth. Less arbitrary, less self-sufficient, less recalcitrant, they may be split into forms which have some likeness to the ideal brick form, and they assume a character distantly resembling the docility of the brick, but without ever really approximating it.

Of course, stone may be hewn and sown by man into whatsoever shape he listeth. Rock aptly shaped and fitted is a building material in a class by itself. It has now yielded to master man. As cut stone it is subdued to its new use. Civilized, it assumes the habit of civilization. It conforms. It has lost its angular and rugged individuality, its disdain of civilized appearance. It has taken on the polish of the courtier. Always it had character. It needed only education and an understanding of its duties and responsibilities. Having these, its inherent sterling qualities shine forth. It is fit companion for the great, fit material for palaces and the like. But it has not acquired and never can acquire simple domesticity. It is either one thing or the other—in its natural state, a savage, refusing to recognize its duty to its neighbor man, or, in its acquired condition, a polished aristocrat, subscribing to *noblesse oblige* but scorning the humble duties and relationships of the citizenry. It may be used to decorate and ornament a simple dwelling-house, as one may wear a finger ring or a brooch, but not to build one. It is above all that.

* * *

Proper Ventilation of Tile Farm Buildings

Tho hollow tile is proving the ideal material for poultry houses, because it makes a structure both dry and warm, the proper circulation of air must be looked after carefully, to make the tile chicken house a healthy home for the hens. The ventilator in the roof, when put on the hollow tile chicken house makes conditions of air, warmth and dryness nearly perfect. This is the opinion of a number of farmers who have been interviewed on the subject.

Chicken House Built of Hollow Tile. The Ventilators Shown on the Roof Are Necessary for Best Results.

It is the opinion of John Bonzer, of Monona, Ia., that chickens are very susceptible to drafts and when air is let in thru the windows there are always some on which the air is blowing. In the case of the roof ventilators this danger is entirely eliminated as they are so constructed that the opening is always facing in the opposite direction in which the wind blows.

If best results are obtained thru the use of roof ventilators in the hollow tile farm building it would be well for the hollow tile manufacturer to point this fact out to the farmer. If the building should fail to serve its purpose because of lack of proper ventilation, it is doubtful whether the farmer will see this as the real reason and not blame the hollow tile as unsuited to farm purposes. A *satisfied* user is a booster.

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Omaha Building Show Draws Much Attention

Omaha's first complete building show or "Own Your Home" exposition proved to be a decided success. The show was held in the Auditorium April 18 to 23 and was most complete in that it showed all the materials entering into the construction of a home as well as some real estate and financing exhibits.

The success of the exhibition must be attributed in a large measure to the efforts and efficient management of Robert C. Mitchell, of the Reliance Brick Co., Omaha, and Charles A. Franke, also of that city. Mr. Mitchell is well known to the industry having been connected with the Farr Brick Co. and later with the Barkwill-Farr Co.

One of the features of the show was a splendid exhibit made by the Nebraska Chapter of the American Institute of Architects. In this department were shown a great many paintings and drawings of Omaha buildings and residence floor plans and details. One room of this exhibit was fitted out as the drafting room in an architect's offices and to make it more realistic a draftsman was at work in the room.

The Common Brick Manufacturers' Association was on the job with an exhibit of the "Ideal Wall." The exhibit of face brick by the Reliance Brick Co. was the feature of the show and probably the most pretentious display in the building. Mr. Mitchell and Mr. Franke are to be congratulated on the success of the exposition.

* * *

Bricklayers Appeal to Secretary Davis

Wage reduction movements of employers in building trades are becoming nation-wide, William Dobson, secretary of the Bricklayers, Masons and Plasterers' International Union, declared recently in a message to Secretary Davis, of the labor department, adding that "within a short time turmoil and industrial warfare will be rampant."

Mr. Dobson's telegram indorsed legislation to compel all parties of labor disputes to get together and arbitrate a binding agreement and Secretary Davis was quoted as having declared in favor of this so as to put teeth in the labor department's efforts to conciliate labor disputes. Such legislation, Mr. Davis was quoted as having said, was not compulsory arbitration.

"It is compulsory upon our members," said Mr. Dobson's message, "to conciliate and arbitrate wages, grievances and all other changeable conditions that tend to cause disputes with employers and when an agreement is entered into or an arbitration decision is rendered, our members must hold same inviolate.

"We regret to say, however, and it is beyond our understanding, that our employers universally are joining wage reduction movements that wantonly and outrageously violate the splendid and peaceable relations of so many years standing. Further, such employers are now resorting to forcible measures, and 'take the reduction or leave it' is now their slogan. As a result lockouts and countless strikes are the order of the day, our unions protesting the reductions and demanding that their cardinal principles of conciliation and arbitration shall stand. These movements of force are becoming nation wide and within a short period of time turmoil and industrial warfare will be rampant."

HOW LACLEDE-CHRISTY MARKETS ITS PRODUCT

Laclede-Christy Clay Products Co. Firm Believer in Marketing Thru Dealer—Work with Dealer in Advertising and Promoting Products—Enormous Growth of Refractories Manufacture Depicted

DEALER SERVICE appears to be the very cornerstone of the remarkable business built up by Laclede-Christy, the internationally known manufacturers of refractories products in which are conspicuously included fire brick, fire clay, salt glazed sewer pipe, boiler and stoker tile, refractory cements, and scores of allied items.

The output of this tremendous organization is well known to readers of this paper, but the particulars of its marvelous organization, the efficiency of its methods of production and the extraordinary program of support and cooperation which it has developed and maintains for the benefit of its retail distributors deserves more than passing notice.

The growth of the refractories division of the construction industry in but thirty years' time from an annual product valuation of scarcely $400,000, to more than $100,000,000 a year, is striking evidence of its importance as a factor in this field of American business. The Laclede-Christy Co. is the name given to the consolidation of the Laclede Fire Brick Manufacturing Co. and the Christy Fire Clay Co. which took place fourteen years ago uniting two of the oldest and best known St. Louis firms, whose beginnings go back to pre-Civil War days.

Laclede-Christy products are all made from rich and well known Missouri Cheltenham clays, and mutually complementary research and engineering departments complete in personnel and equipment, not only affords the most perfect utilization of this raw material, but constantly gives to dealer and consumer most comprehensive and satisfactory consultation service.

AID DEALER IN 100 PER CENT. PUBLICITY CAMPAIGN

But in addition to the high quality of their products and the ever available assistance of their service department, Laclede-Christy have worked out and put in operation the most generous and far-seeing publicity program, including both advertising and direct mail appeal, in which the importance of the retail dealer is conspicuously emphasized and his increasing sales cooperation appreciated and recognized.

The value of this to the retail supply man who handles Laclede-Christy materials can scarcely be exaggerated. This advertising consists primarily of full-page thruout the year in the country's leading national magazines. In addition to this national publication advertising Laclede-Christy do a great deal of direct mail advertising.

What is known as the Laclede-Christy Bulletin is the chief factor in this phase of their publicity. It is mailed every other month to a list of more than 25,000 live users of refractories, in every part of the country. An interesting feature of the

This is a Most Interesting View of One of Laclede-Christy's Three Large Plants, Which Helps to Turn Out the 700 Tons Burned Clay Products Daily.

The Laclede-Christy Plants are Fully Equipped with Every Modern Appliance. The Above is a Corner in the Laclede-Christy Ceramic Laboratory at St. Louis, Mo.

Laclede-Christy Bulletin is the fact that the back cover of every issue contains a list of all Laclede-Christy distributors, with an introductory heading which says, "Buy from these distributors."

A continuous succession of sales letters supplement the bulletin and a constant correspondence of practical suggestion is carried on with every dealer who handles Laclede-Christy products.

Just to show how the building supply dealer is recognized by this great firm in its sales program, we herewith reproduce the following paragraph on "Cooperation" from a recent bulletin. It reads:

"When we contract with a building supply dealer to handle our products we cease to look upon him as a 'dealer' in the ordinary sense of the word. He immediately becomes a Laclede-Christy representative in his particular locality; he is our distributor, and a very important part of our big, complete, broad-policied organization."

Extensive publicity work has always been a feature of the company's management and even during the time, not so many years ago, when people looked with suspicion on the concern that was "putting all its money in advertising," publicity work in the form of books and pamphlets explaining the quality, use and performance of its products, was resorted to.

In addition to the regular monthly bulletin, Laclede-Christy has recently published two booklets setting forth the company's policy of dealer distribution, the service it is prepared to render to the trade, and the quality and merits of its products. The books reflect the result of great pains and work in their preparation in the artistic manner in which they are gotten up. One of these is called "The Laclede-Christy Refractories Book" and the other "Fire Brick and Other Fire Clay Refractories."

The books are well illustrated with snapshots of the concern's various plants and the special plant equipment such as the ceramic laboratory where interesting experiments are constantly being conducted to solve the numerous problems arising in the endeavor to fit refractories for every possible usage. The books contain a few remarks on the history and development of the refractories industry and of the Laclede-Christy Co. A list of the company's products is also given and it is astounding what this enterprising concern is doing, the fields it is covering. Besides refractories for practically every conceivable purpose, a considerable amount of other clay products are manufactured, including chimney coping, wall coping, flue lining, drain tile and so forth.

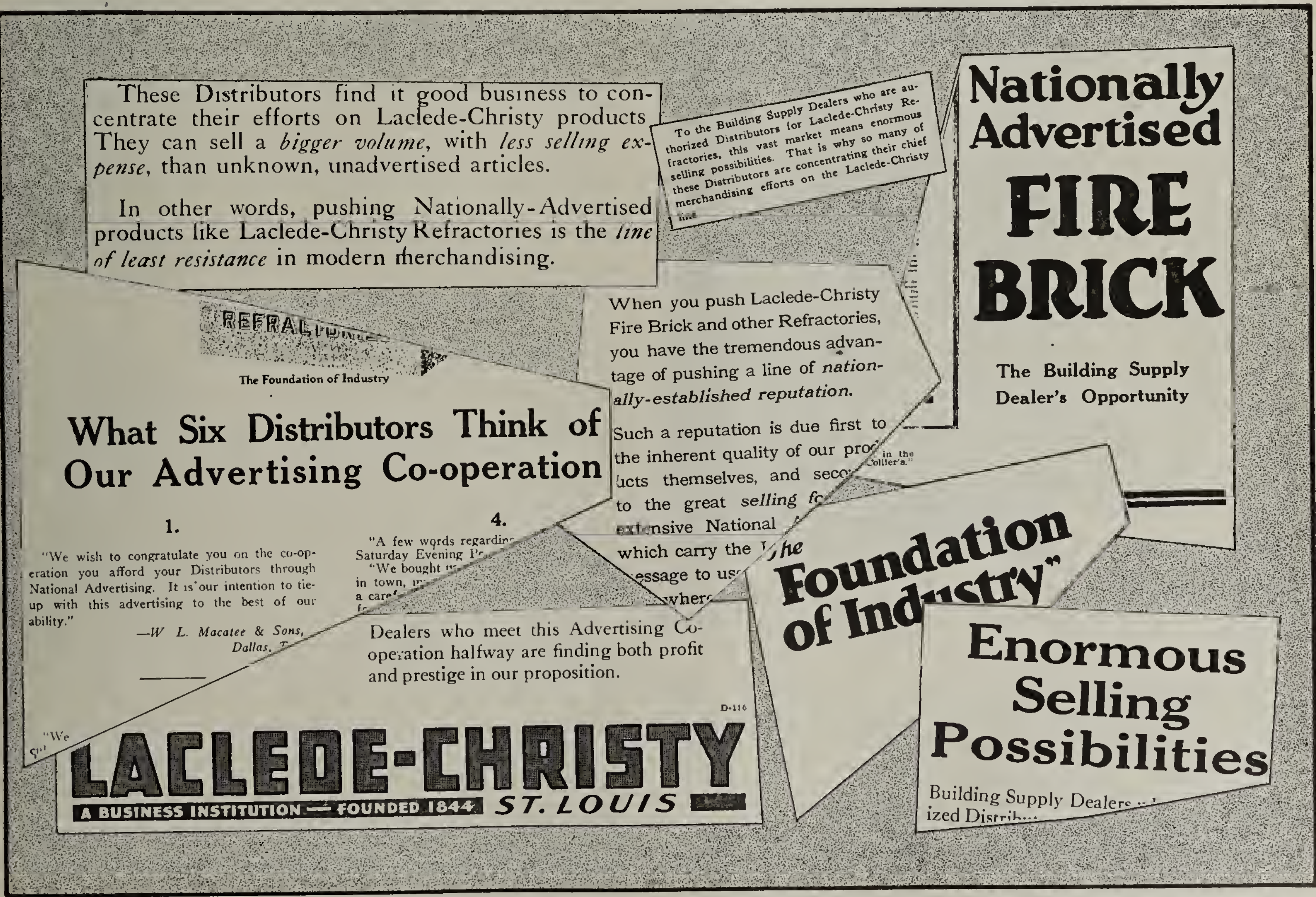
Information on every type of Laclede-Christy fire brick is furnished and sizes and shapes of standard nine inch and over, fire brick shapes, carried in stock are adequately described. An interesting page in the book on "Fire Brick" is the one giving direction for the laying of this commodity. The amount of fire clay needed, how to use it and the way to estimate fire brick work is described.

A GLIMPSE OF THE CERAMIC LABORATORY

The ceramic laboratory is perhaps the most vital reason for the high reputation which Laclede-Christy products have achieved in the past quarter century. Every step of the way the most thoro scientific and practical methods are obtained. All incoming raw material is carefully noted and classified, its texture and physical characteristics cataloged, its action when fired, studied and recorded, and every possible combination tested and utilized in the production of the most perfectly guaranteed output.

200 DIFFERENT PRODUCTS

The realms of geology, physics, and chemistry are constantly being commandeered for assistance and suggestion, and every



These Distributors find it good business to concentrate their efforts on Laclede-Christy products They can sell a *bigger volume*, with *less selling expense*, than unknown, unadvertised articles.

In other words, pushing Nationally-Advertised products like Laclede-Christy Refractories is the *line of least resistance* in modern merchandising.

To the Building Supply Dealers who are authorized Distributors for Laclede-Christy Refractories, this vast market means enormous selling possibilities. That is why so many of these Distributors are concentrating their chief merchandising efforts on the Laclede-Christy line

Nationally Advertised

FIRE BRICK

The Building Supply Dealer's Opportunity

REFRA

The Foundation of Industry

What Six Distributors Think of Our Advertising Co-operation

1.

"We wish to congratulate you on the co-operation you afford your Distributors through National Advertising. It is our intention to tie-up with this advertising to the best of our ability."

—*W L. Macatee & Sons,*
Dallas, T

4.

"A few words regardin
Saturday Evening P
"We bought
in town,
a care

"We

When you push Laclede-Christy Fire Brick and other Refractories, you have the tremendous advantage of pushing a line of *nationally-established reputation.*

Such a reputation is due first to the inherent quality of our products themselves, and seco
to the great *selling f*
extensive National
which carry the
essage to us
wher

in the Collier's."

The "Foundation of Industry"

Dealers who meet this Advertising Co-operation halfway are finding both profit and prestige in our proposition.

D-116

LACLEDE-CHRISTY

A BUSINESS INSTITUTION — FOUNDED 1844 ST. LOUIS

Enormous Selling Possibilities

Building Supply Dealers
ized Distrib

How One Great Clay Products Manufacturer Organization Is Linking Up the Retailer in Its National Publicity.

known method of maintaining quality and discovering improvements in composition are constantly employed.

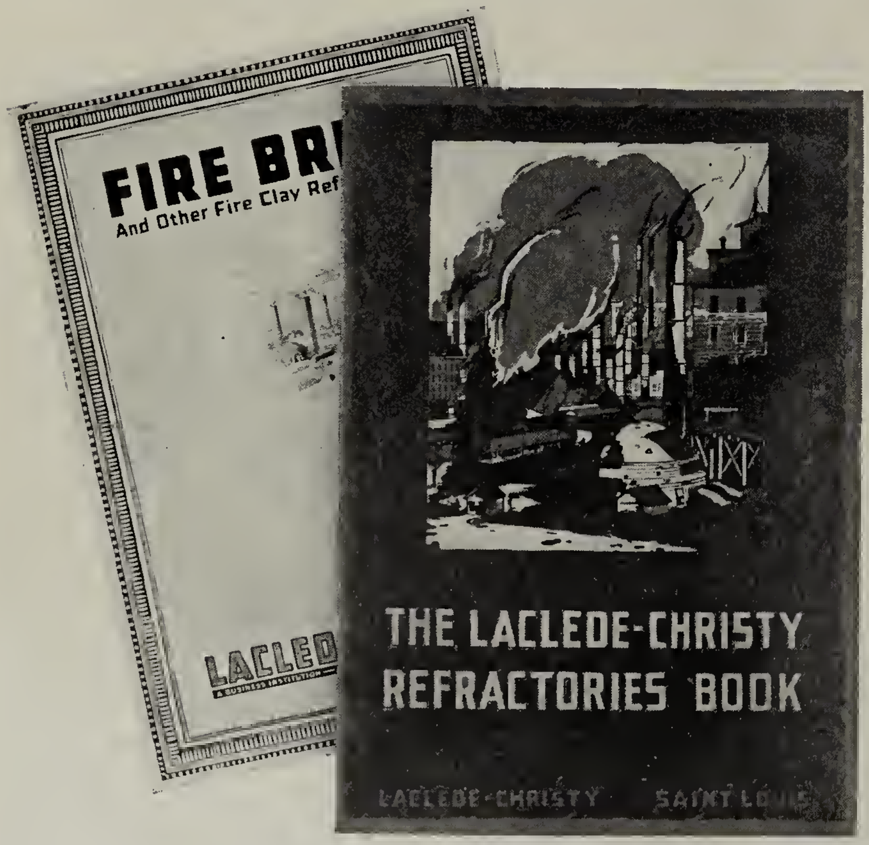
More than 200 different products are manufactured in the immense Laclede-Christy plants including six brands of fire brick, covering the entire range of need for that material; eleven different fire clays; basic brick; silica brick; chemical industry products, including chemical brick in standard sizes; chimney coping; chimney pipes; chimney tops; flue lining; wall coping; drain tile; sewer pipe; and other kinds of glazed and unglazed ware; twenty-eight different miscellaneous refractories' products; twenty-seven varieties of glass house refractories; five kinds of bauxite furnace and kiln linings; fourteen kinds of boiler and stoker tile; automatic stokers; flat arches; and high temperature repair cements.

AN ENTIRE ALPHABET OF CUSTOMERS

The industrial fields in which Laclede-Christy products are increasing, used make a roster embracing nearly every letter in the alphabet, from airplane manufacturers to zinc smelters, from automobile plants to oil refiners, railroads and ship builders.

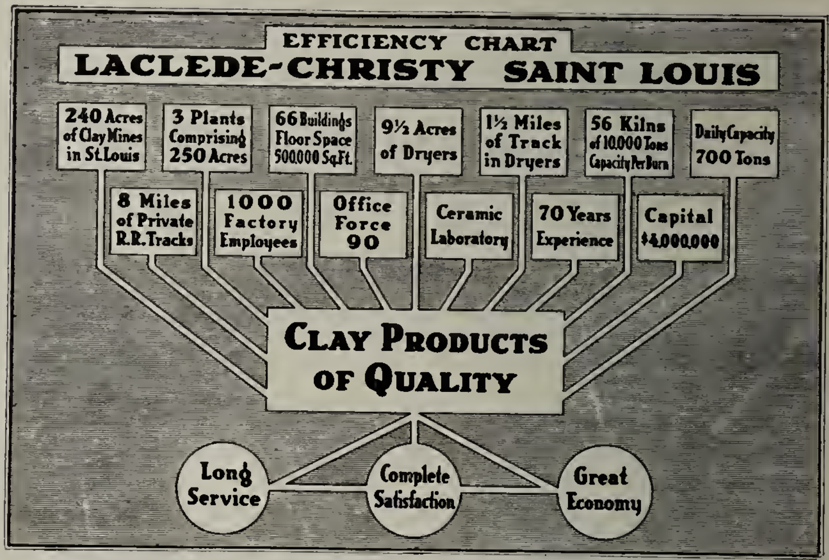
Prominent among these consumers may be added blast furnaces, clay products manufacturers, coke ovens, coal mines, cotton mills, creameries and dairies, glass manufacturers, gypsum manufacturers, naval stores, paper mills, rolling mills, saw mills, soap manufacturers, tool manufacturers, and water works.

E. C. Little, assistant sales manager of the Laclede-Christy Clay Products Co., says of dealer distribution: "Because there are some 22,000 dealers in building materials in the United States we need not be dismayed by the fact that our distributors number only 126 because a large proportion of them are really jobbers, and have distributors of their own and do, in a year, a very large and lucrative business. What should and must concern us, is that in 1919 refractory products to the total value of $72,000,000 were marketed in the United States. Of this vast amount, clay refractories are represented by $40,000,000, and of these clay refractories, fire brick represents $36,000,000; silica brick accounted for $20,000,000; magnesite refractories, $6,000,000; glass house refractories, $3,000,000; chemical porcelain and chemical stoneware, $1,750,000; zinc retorts, $1,200,000, and stove linings, saggers, potters' pins, stilts and spurs, mantle rings, electric resistance units, muffles, assay supplies and crucibles and the miscellaneous items, totaled $2,050,000, leaving bauxite and chromite refractories with $650,000 each.


FIRE BRI
And Other Fire Clay Ref
LACLED
THE LACLEDE-CHRISTY REFRACTORIES BOOK
LACLEDE-CHRISTY SAINT LOUIS

Reproduction of Two Interesting Books on Laclede-Christy Refractories Giving Also a Glimpse Into This Concern's Methods of Operation.

"The fact that our distributors handle those products of our manufacture whose sale is more readily made, such as fire brick, fire clay, square edges tile, etc., is a natural one in that less knowledge of the business is required and no very great difficulty is encountered in arriving at the selling prices of these commodities. In other words, by being entirely human and selling what sells most readily, our distributors are helping us to the extent that their action puts it squarely up to our own direct selling organization to market our remaining products, which are more difficult to dispose of, due to their character and the fact that an adequate knowledge of the conditions under which these products are employed is indispensable to our own sales representatives. Of course, we are immediately interested in the value of the total clay refractories; that $44,000,000 looks and actually is big. The fire brick item, alone, at the high average price of $45 per thousand, means 800,000,000 nine-inch equivalent."


EFFICIENCY CHART
LACLEDE-CHRISTY SAINT LOUIS
240 Acres of Clay Mines in St. Louis
3 Plants Comprising 250 Acres
66 Buildings Floor Space 500,000 Sq. Ft.
9½ Acres of Dryers
1½ Miles of Track in Dryers
56 Kilns of 10,000 Tons Capacity Per Burn
Daily Capacity 700 Tons
8 Miles of Private R.R. Tracks
1000 Factory Employees
Office Force 90
Ceramic Laboratory
70 Years Experience
Capital $4,000,000
CLAY PRODUCTS OF QUALITY
Long Service
Complete Satisfaction
Great Economy

Efficient Organization Plan of the Laclede-Christy Co., St. Louis, Mo.

The above are some of the reasons why this great organization deserves the admiration and respect of the entire building supply industry. There is more than a mere superficial rhythm in its favorite slogan "*Laclede-Christy, St. Louis, a Business Institution Founded* 1844."

❧ ❧ ❧

Drainage Reclaims 600,000 Acres of Swamp

The part that drainage plays in the development of communities and nations is a big one. Every once-in-a-while we are told of the reclamation of thousands of swamp lands in some part of the country with a consequent rise in the value of the lands of several thousand per cent.

Thru the efforts of the North Carolina Geological and Economic Survey and the help of the U. S. Department of Agriculture and various interestes in the state, a large piece of reclamation work has been effected in North Carolina. It has been estimated that 600,000 acres of land that formerly were swamp areas, worth from fifty cents to $2 an acre have now increased in value from $50 to $100 per acre.

Tile drainage of these reclaimed swamp lands is one of the most important problems to be confronted. The North Carolina Department of Agriculture is giving serious attention to this phase of the reclamation work and is advising the owners of these lands and giving instructions how to do this most effectively. Undoubtedly these lands are most fruitful fields of endeavor for the drain tile manufacturer and the possibilities of a rich harvest are there.

Refractories Manufacturers Cut Price 10%

Demand for refractories from the steel industry continues light, and to stimulate buying in these markets if possible, refractories manufacturers have reduced the price on this commodity ten per cent. It is expected that operations in the steel industry will be increased inasmuch as conditions affecting the iron and steel products have become better stabilized. Increased operations will in turn increase the demand for fire brick, silica brick and so forth. The Weirton (W. Va.) Steel Co. is said to be in the market for several carloads of silica brick, as well as a quantity of magnesite brick.

The Carnegie Steel Co. continues to take small allotments and a number of tentative inquiries were received recently from Ohio. A large number of kilns are cold and production in general may be said to average twenty per cent.

Pennsylvania No. 1 fire clay brick has been reduced from $40 to $50, to $36 to $43, and Pennsylvania silica brick has been cut from $45 to $50, to $40 to $45. Other districts report similar reductions. Magnesite brick now is quotable at $80 to $90 per net ton, while the chrome brick price is $70 to $75 per net ton.

Manufacturers are not inclined to pile up stocks at present prices. In a number of instances, however, stocks are sizable, while in others they are not more than necessary to take care of customers' immediate requirements for probably a month, should activities suddenly be resumed.

* * *

A SIMPLE *and* COMPLETE COST SYSTEM

IT HAS BEEN FOUND, owing to frequent changes in sizes during short running periods, that cost determination should not be attempted in application other than on a tonnage basis. So, in the following outline of a cost system devised by the Permanent Building Society, that is all that is attempted.

Briefly stated the system contains two cost divisions. They are Manufacturing Cost and Sales Cost. The first figuring, Manufacturing Cost, is based only on completely finished product, or in considering the output of the plant as being the outcount from the kiln of No. 1 ware. The second figuring, Sales Cost, is based only on ware sold.

DIVIDE COST UNDER DIFFERENT HEADS

In the first figuring, Manufacturing Cost is divided into the following heads:

Clay bank; preparation, (grinding, machinery, drying); burning, (including setting and wheeling); maintainance and repairs—labor; maintenance and repairs—supplies; foreman's salaries; stable expense; power—fuel; power—electric; power—labor; fuel for burning; insurance; kiln repairs; taxes; depreciation; depletion.

Under these heads "manufacturing cost" is determined for the month current and for the period from the first of the year thru to the current month; for example:

Invoice January 1st....1,000 tons cost $7,580. Cost per ton $7.58
Mfd. Jan. (outcount) 1,500 tons cost 9,000. Cost per ton 6.00
Mfd. Feb. (outcome) 1,500 tons cost 8,420. Cost per ton 5.61

4,000 tons cost $25,000. Cost to date $6.25

Under the division of Sales Cost are the following heads: Advertising; Customers' Discounts; General and Administration expense; Traveling expense; Yard work and loading from stock; Office expense; Officers' expense.

The expenditures totaled under these heads are divided by the number of tons of ware sold, giving the sales cost per ton and this added to the manufacturing cost gives the complete per ton cost.

DISTRIBUTE LABOR COSTS DAILY

It is, of course, necessary to so arrange the pay roll as to distribute labor costs as indicated under the above heads in the two divisions, and such distribution is best made at the close of each day's work. It is also necessary to have the various accounts named as general book accounts.

For convenience in various considerations and determinations a shipping book is kept which has the following divisions in each line:

Copy of headings as used in shipping book: Consignee—Destination—Car Initials—Car Number—Date Empty Received—Number Pieces—Kind—Weight—Price—Amount—Frgt. Amt.—Frgt. Rate—Date Car Reached Destination—No. Tile Broken—Car Cap.—Shipment No.

Copy of headings as used in Manufacturing and Sales record book: No. tile made—Weight in pounds—No. block made—Weight in pounds—Number brick made—Weight in pounds—Total number pieces made—Total weight in pounds—Average shipping weight per car—Average freight rate per cwt.—Number tile sold on cars—Weight in pounds—Amount—Number brick sold on cars—Weight in pounds—Amount—Total number pieces sold on cars—Total Weight in pounds—Total amount.

SEPARATE NO. 1 FROM NO. 2 WARE

Number tile sold locally—Weight—Amount—Number block sold locally—Weight—Amount—Number brick sold locally—Weight—Amount—Total number pieces sold locally—Weight—Amount—Total number pieces sold—Weight—Total amount all sales No. 1 ware.

No. 2 Ware.

Number of No. 2 blocks sold on cars—Weight—Amount—Number of No. 2 blocks sold locally—Weight—Amount—Number of No. 2 tile sold on cars—Weight—Amount—Number of No. 2 tile sold locally—Weight—Amount—Total number pieces No. 2 ware sold locally—Weight—Total Amount all sales No. 2 ware.

RECORD VALUABLE IN MAKING REPORTS

The keeping of records outside of the regular set of books requires little additional work and is of great comparative value. The foregoing heads for columns of records have been devised for purposes of comparison and for convenience as quickly available data in the compiling of yearly summaries and in making the great variety of reports called for in the various departments of State and National government.

The heads displayed as for use in shipping book are quite important as they give a complete history of each shipment and quickly give such information as, total revenue received by railroads, breakage, etc. A further division is recommended in that this record shows each kind and size shipped in individual columns. This will give some illuminating information for the thinking manufacturer. In addition to the above records, we advise a "manufacturing record" showing heads as follows: Date: Total number cars made—Hours making 4"—Hours making 5"—etc.—thruout the list of products made, followed by columns for each size showing the number of cars made.

* * *

Wages Cut 10 Per Cent. Plant Resumes Work

Employes of the Claycraft Brick Co. and Iron Clay Brick Co., Shawnee, Ohio, have accepted a wage cut of 10 per cent. it is reported. Work has been resumed with 250 men.

IMPORTANT DISTRIBUTION *of* TRUCK COSTS

This Article Contains Valuable Hints Regarding Lubrication Tells What to Do in Cold Weather—Selecting the Right Chassis

By P. L. Sniffin

IT WILL BE RECALLED that in the first article of this series on "Motor Truck Operating Costs," three divisions of truck costs were specified, namely, fixed charges, maintenance charges, and running charges. The more visible expenses involving the running costs were outlined in the first article. Fixed charges were also discussed.

Maintenance charges, the remaining division of truck operating costs may be said to include:—garage cost, overhead, repairs including material and labor, tires, overhauling, painting, wrecking crew and equipment, mechanics and inspectors, and battery renewal and charging.

These items of maintenance, so called because each is based on the running conditions of the truck, are for the most part self-explanatory. However, it is frequently found that the truck operator misinterprets the sphere of one or more of these or else fails to include all items chargeable toward them.

GARAGE CHARGE

Obviously, the garage charge is based on the time factor, that is, it continues whether the individual trucks are running or not, yet it is a charge directly traceable to the truck's use. It may be apportioned as rental equally among all vehicles housed or according to size and type. In some cases, the operator keeps his trucks in a public garage which includes space and service in which event each vehicle should be charged with the expense it incurs. Where the operator owns the garage it is necessary to apportion all items that make up its cost including interest on investment, taxes, insurance and expenses of upkeep such as heat, light, power, water, etc. Various methods of figuring each truck's share of garage expense could be recommended when the trucks vary in size, weight, etc., but for most purposes, it is a case of using whatever method is most convenient for the owner.

Washing and polishing ordinarily comes under the garage item and each truck should be charged with the cost of the individual work.

TIRES FIGURED SEPARATELY

It is commonly accepted as best practice to amortize tires separately from the truck itself, figuring the amortization of the truck on the net investment of the truck minus the tires. The most common method of taking care of the tire charge and one that is satisfactory for most purposes, is to divide the original cost by the mileage based on experience, or where this is not available, by the adjustment mileage. Tire repairs may be taken care of satisfactorily by a direct charge to maintenance, but it must be remembered that an accurate figure of tire cost per mile of operation can be arrived at only after the tire has served its full life and repair charges can be computed.

REPAIRS ON CHASSIS

It is generally considered advisable to keep separate record of chassis repair in order to compare various makes of chassis. This is because the chassis will have a direct effect on the body inasmuch as a high grade truck minimizes the vibration and abuse upon the rest of the equipment. In order to show specific points of advantage in different trucks, such as accessibility and wearing quality of parts, many truck operators find it advisable to divide repair costs into labor and material costs.

Altho the easiest method of apportioning repair costs is to charge the cost against the truck at the time the repairs are made, this is an exceedingly unsatisfactory method, since it will show an unusually high cost per unit at one time and a low cost at another. This may be avoided readily by distributing the yearly cost in proportion to the monthly mileages.

PAINTING AND OVERHAULING

As the benefits derived from painting a truck are spread over a long period of time, it is customary to distribute the first cost over that period. In other words, if the truck is painted once a year, the cost should be divided, as in the case of repairs, according to monthly mileages.

Every motor truck requires an overhauling every so often principally because in this way conditions will be disclosed which if taken care of immediately will result in lower future repair costs. It may be said to be general practice among experienced truck owners to overhaul each truck once a year. As in the case of repair costs, this item should be extended over the same period in proportion to mileage.

MAKE FREQUENT INSPECTIONS

Systematic inspection, adjustment and lubrication are to be emphatically recommended in the interests of saving expensive replacements during overhaul, and large repair charges. It has been the experience of practically all concerns that have adopted a nightly schedule for this, that the saving accrued makes the time and trouble expended more than worth while. Such a system includes making minor repairs such as tightening brakes and adjusting spring clips, chains and radius rods. To enter the charge for this in the operating cost system it has been generally found satisfactory to compute the time spent on each vehicle every day and add this sum to the repair charge items.

OVERHEAD

Certain items of administration, which vary according to the size and type of business, are chargeable to maintenance and are ordinarily computed on a monthly basis and divided equally among the trucks according to mileage. These may include salaries of superintendents, dispatchers, etc., altho in some cases it is found advisable to include these items among the running charges. The expenses of special offices for delivery superintendence, clerical expenses and others which will suggest themselves to the operator, come under this head.

MISCELLANEOUS EXPENSES

Battery renewal and charging, inasmuch as its benefits are distributed over a definite period, should be charged pro rata, according to mileage, over that period. Where it is advisable to maintain a wrecking crew and equipment, it has been found satisfactory to consider the cost of the equipment as a separate unit the cost of which, together with the time of the drivers making up the crew, is charged pro-rata among the trucks that receive its benefits in accordance with the amount of use required of the equipment by each.

COLD WEATHER HINTS

1. Be sure to see that water in cooling system is protected against freezing by heating garage, adding alcohol or other anti-freezing solution to the water, or by drawing off water when engine is turned off over a half hour outdoors.
2. If snow is on the road, avoid formation of ice under the wheels when stopping by releasing brakes just before coming to a stop and letting truck roll the last few inches.
3. If pavements are icy, start slowly. Do not accelerate faster than wheels will move. If necessary, make traction by applying sand around rear wheels. Spinning the wheels will not move the truck even if chains are used, if there is no traction.
4. In snowy weather and when pavements are slippery, always carry a shovel, pick, box of sand and chains.
5. To avoid spinning wheels, feed gasoline slowly and work clutch gradually. This is because there is less resistance on a slippery road and consequently rapid acceleration is neither necessary nor possible.
6. Do not use chains on hard road surfaces. They are meant for use only in snow or mud. Remove chains when you approach hard surface as otherwise unnecessary tire wear and other detrimental results will follow.
7. Be careful in driving down hill. Do not go faster than in driving up hill.
8. Do not forget that the amount of power necessary to start or stop a truck depends on the resistance or traction between the road and the rear wheels.

POINTS ON LUBRICATION

Whether the clay manufacturer operates a fleet or only one or two motor trucks, much of the success of his delivery system depends on proper lubricating methods. Systematic inspection and care of parts that require lubrication will repay the truck owner many times over in savings on maintenance cost.

First of all, it must be understood that oil actually wears out. Under a microscope it can be seen that oil is composed of tiny granules which, thru wear, become so thin that to mix good oil with the old oil is just about as effective as to take four dead or partly dead dry-cell batteries and hook up one good one in the center. For this reason, the oil in a motor should be thoroly drained about once a week regularly, when the truck is operating full time.

In draining old oil out of a motor, it will be found to be very thin, almost like water, and very dirty. Oil in this condition is very detrimental to the motor, as it causes premature wear, decreasing efficiency and bringing up maintenance costs.

WASH CRANK CASE WITH KEROSENE

It is important to wash out the crank case by putting in a gallon or two of kerosene, running the motor for a minute or two, and then letting it drain for a short while, after the kerosene is apparently all out. This gives it time to run down from the cylinder walls and other parts. Never use gasoline for this purpose.

Most experienced truck users have found it advisable to inspect transmissions at least once a month, adding to them if necessary. Draining and washing transmissions is usually required once a year. Water will do for this purpose, either hot or cold, if pressure is available.

Buying high grade oil is the best kind of lubricating economy. It is important to look up an oil company with a good reputation and pay a little more for a high grade product as this results in a good sized saving in the end. It is practically impossible to tell anything about the fuel points on oil by examining samples.

MAKING THE RIGHT CHASSIS SELECTION

The first step in selecting a motor truck is to determine what make of chassis on the market makes the best investment. The clay products manufacturer will do well to carefully consider the following items, which are arranged in list form for the sake of convenience.

1. Buy a motor truck as you would a jeweled watch. Depend more on the reputation and reliability of the manufacturer than on the physical appearance of the product. If familiar with engineering details, make a careful study of comparative specifications; otherwise look to performance records of longevity, dependability and economy—but be sure they are in the clay products business.
2. Remember that "first cost" is far from being the most important cost in the end. The successful truck purchase is one that renders efficient service at the lowest cost per ton mile *over a period of years.*
3. Don't take a chance on having an "orphan" on your hands. Remember that out of 411 truck manufacturers in business between 1910 and 1917 more than 225 failed some time during that period. During the present readjustment period, this mortality rate is apt to be considerably higher. A long established resourceful manufacturer will continue to be ready to render service and supply parts when required and will insure for his product a comparatively high resale value.

DO NOT OVERLOAD YOUR TRUCK

4. Don't base a truck's value on its first year's service. Many trucks that make surprising records in their first year, fall down completely after two or three years continuous use.
5. Don't buy a truck with the idea of overloading. The practice of overloading has proved time after time to be false economy. Don't insist on learning this thru your own bitter experience. Buy a truck with full rated capacity to handle the size loads your business requires.
6. Remember that there is economy in big units. Per unit of capacity, the first cost, maintenance costs, operating costs—in fact, every item of expense—decreases as the size of the truck increases. However, don't waste load carrying capacity by buying a larger truck than your daily loads require. Where loads are uniformly large and where the routes traveled will warrant it, a few large trucks are far more economical than a greater number of small trucks.
7. Don't overlook the selection of the size wheelbase best suited to your use. Where short turning or manipulating in narrow spaces is necessary, get the shortest wheelbase consistent with your load requirements.

USE CARE IN TIRE SELECTION

8. Find out whether solid tires or pneumatic tires are best adapted for your use. Both have their advantages. A comparison for individual requirements would involve a lengthy discussion. Yet, it may be said in general that pneumatic tires have been found entirely satisfactory for use on bad roads, for high-speed work over long hauls, and in cities where pavements are very rough, in sizes up to and including the 3½-ton truck.

Of almost equal importance to the careful selection of the motor truck chassis, is a thoughtful analysis of body types as they apply to the building supply dealer's business. As has been pointed out above, the success of a motor delivery system depends largely upon whether or not the bodies selected will haul the various kinds of loads with a maximum of efficiency. In another issue, this subject will be taken up in detail, together with illustrations of the principal types that are adapted to hauling various types of clay products.

Canada's Mineral Production in 1919

Complete data on the mineral production of Canada during the calendar year 1919 has been compiled and gathered together in book form. According to the statement the total value of the mineral production in 1919 was $176,686,390. The total value of metallic products in 1919 was $73,262,793 as against a value of $114,549,152 the year previous, showing a decrease of 36 per cent. as compared with 1918. The total value of non-metallic products in 1919 was $103,422,597, as against $96,752,745 in 1918. The value of non-metallic products in 1919 was greater than that of any previous year. Much of this increase is to be credited to higher prices realized for most of these products tho on the other hand, important increases have been made in the quantities of products produced including asbestos and the various classes of structural material.

The value of structural materials and clay products increased materially in 1919 over the 1918 production in almost every case except in the case of kaolin, sand and gravel. The number of common brick manufactured was 291,469,996, an increase over the previous year of over 76 per cent.; 74,423,703 pressed brick were produced, an increase of 85.38 per cent.; 13,744 tons of kaolin were mined, a decrease over 1918 of 12.05 per cent. Sewer pipe showed an increase of 71.78 per cent. with a total tonnage of 62,821. Drain tile production did not increase materially in 1919, the 20,078,000 feet produced representing an increase of but 1.6 per cent. Of all building materials sand-lime brick showed the greatest increase; 33,553,699 brick constituted the output, which represents a gain of almost 130 per cent.

The total production of marketable coal during 1919 was 13,681,218 short tons valued at $54,413,349 or an average of $3.98 per ton. The total output of coal was less than the 1918 total by 1,296,708 tons.

The shipments of feldspar in 1918 were 14,679 tons, valued at $86,231, or an average of $5.87 per ton, as compared with shipments in the previous year of 18,782 tons, valued at $112,728, an average of $6 per ton. The production of fluorspar shows a substantial decrease. The total shipments during 1919 were 5,063 tons, valued at $97,837, as compared with 7,362 tons, valued at $156,029, in 1918.

The total value of the sales of fire clay, fire brick, fire clay brick and magnesite brick in 1919 was $389,354. There was in addition a production of fire clay products, valued at $64,133, reported as being made from imported clays. The production in 1919 included: Fire clay or refractories clay sold as such, 4,600 tons, valued at $24,163; fire brick, including silica brick and magnesite brick in addition to fire clay brick, 5,610 M valued at $268,756; other fire clay products valued at $96,435.

* * *

Make 100% Organization of Ohio Brick Men

Plans were made at a meeting of the Ohio Division of the Common Brick Manufacturers' Association of America, which was held at the Deshler Hotel, Columbus, April 12, for a meeting of Ohio common brick manufacturers to be held at the same place May 9 for the purpose of organizing the Ohio Common Brick Manufacturers' Association. The committee named on organization consists of W. W. Howell, of the Collinwood Brick Co., of Toledo; E. L. Mitchell, of the Mitchell Brick Co., of Cincinnati, and W. P. West, of the Franklin Brick & Tile Co., of Columbus. Mr. West was named secretary of the committee. Reports show that there are fully 115 common brick manufacturers in Ohio, the most of any one state in the country and only about thirty are members of the national association. The aim of the Ohio organization is to get a 100 per cent. organization in order to push the campaign for the use of common brick in home building to match the campaign now being waged by the lumber interests.

* * *

Tests on the New Brick Hollow Wall

Test structure, showing the practical use of the new brick hollow wall being introduced by the Common Brick Manufacturers' Association of America, is now being erected on the Independence (Ohio) plant of the Cleveland Builders Supply Co. Two walls will be built, and when completed these will be surmounted with heavy joists, upon which will be laid large piles of sand. This will show the capabilities of the brick hollow wall to support loads. Meanwhile negotiations with the Bureau of Standards for tests to be held by that organition, have been made, and as soon as the walls are completed, the bureau will have experts conduct tests according to its own methods.

These tests and the walls were exhibited before members of the Building Commissioners' Conference, which held a convention in Cleveland April 27 and 28. Literature on the new wall is being sent out to all members of the brick manufacturers' association.

* * *

New Men Elected to Federal Highway Council

S. M. Williams, chairman of the Federal Highway Council, announces the election of four new members to the Executive Committee of the council: W. J. L. Banham, general traffic manager, Otis Elevator Co.; David Beecroft, president, Society of Automotive Engineers, and directing editor, Class Journal Co.; Colonel H. W. Alden, vice-president, Timken-Detroit Axle Co., and S. P. Leeds, president, Atlantic City Chamber of Commerce.

Mr. Williams states that the selection of these men is in recognition of their interest and activities in the work of the Federal Highway Council, and the determination to place the work upon the broadest lines and under the direction of men of the widest experience.

* * *

219 Miles of Lincoln Highway Brick Paved

Some interesting figures have been published in regard to the surfacing of the Lincoln Highway. At present the road winds across the country from New York to San Francisco for a distance of 3,305 miles and every type of road surfacing material known is used in its construction. At the end of 1920 2,853 miles of the highway had been improved and the surfacing along its entire length divided as follows:

Brick, 219.68 miles; concrete, 422.34; bit. macadam, 401.81; macadam, 287.10; asphalt, 78; creosote block, 5.90; granite block, 7.10; graded gravel, 956; natural gravel, 62.10; graded earth, 725.67; natural earth, 136; sand, 3.30.

In the last seven years a total of $31,284,520 has been spent in the improvement of the highway. New construction in 1920 ran as follows:

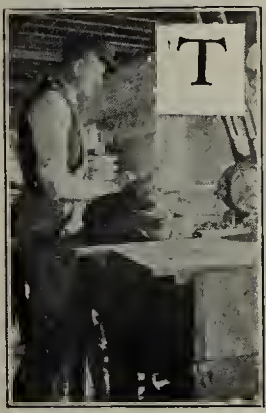
Concrete, 127.5 miles; brick 7.1; bit. macadam, 12.2; macadam, 5; gravel, 187.8; permanent earth grade, 260.9; making a total of 542 miles.

During 1921 the Lincoln Highway Association is planning to spend $10,000,000 in further improvements. In 1920 only 7.1 miles of the road were paved with brick as against 127.5 miles paved with concrete. What percentage is the paving brick manufacturer going to get in 1921?

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

DISCUSS TERRA COTTA PROBLEMS



THE FOLLOWING REVIEW contains brief abstracts of the various papers read before the Terra Cotta Division of the American Ceramic Society at its recent meeting in Columbus. Nine papers were presented at that meeting and these are abstracted by D. F. Albery of the Northwestern Terra Cotta Co., as follows:

1. "A TERRA COTTA INDUSTRY FOR OHIO," BY A. S. WATTS

This paper was in the nature of a query as to why Ohio has no terra cotta factories. Mr. Watts stated that terra cotta was made over thirty years ago in Cincinnati, but for some reason or other its manufacture was discontinued. Mr. Watts pointed out that Ohio has good terra cotta clays, good coal and also a fine market for this material, and these were pointed out as reasons why this state should have terra cotta plants.

W. D. Gates, president of the American Terra Cotta and Ceramic Co. answered Mr. Watts to the effect that all Ohio needs for a terra cotta factory is "some one with lots of dollars and very little sense."

2. "THE VALUE OF AGEING THE TERRA COTTA BODY," BY R. L. CLARE

Mr. Clare tested the terra cotta body under three different conditions.

1. Freshly prepared body.
2. Aged twelve days after preparation.
3. Re-pugged after ageing for 12 days.

These bodies were tested for general working properties, shrinkage, warpage, dry strength, absorption, and so forth. The results obtained showed that ageing improved the general working properties, slightly increased the strength, and slightly reduced the tendency to warp. There was no advantage gained by repugging after ageing.

There was some discussion as to whether bacterial action could have had any effect on the aged clay. The general opinion was that no bacterial action would have developed in so short a time as twelve days under the conditions of the experiment.

3. "A NEW MECHANICAL METHOD FOR APPLYING THE TERRA COTTA FINISH," BY M. E. GATES

Mr. Gates explained the principle of his Pulsichrome machine which is used in the production of interesting and beautiful mottled effects on terra cotta. By the use of this machine very uniform results can be obtained, and a job duplicated with greater ease than was formerly possible.

4. "TERRA COTTA KILN SLABS," BY E. C. HILL

Mr. Hill experienced difficulty in obtaining satisfactory kiln slabs from various sources. After considerable work with various mixers he produced very satisfactory slabs at his own factory.

In the discussion on kiln slabs it was found that most of the terra cotta manufacturers had obtained far better results with slabs made by themselves than with those made by some fire clay shape manufacturer.

M. E. Gates pointed out the main requirements for a good slab are as follows: a good mixture, well prepared, very good pressing of the slab, and good care thruout the handling, drying and burning of the same.

5. THE APPLICATION OF PRODUCER GAS TO PERIODIC MUFFLE KILNS," BY F. B. ORTMAN

This paper covered observations on the producer gas installation at the Northwestern Terra Cotta Co.'s factory. It was found to be very difficult to keep the gas supply up and at the same time maintain a good quality of gas. Considering all things, the producer gas did not show any particular economy or better results than direct firing, on the periodic kilns.

6. "FIRE CRACKING OF TERRA COTTA," BY E. C. HILL

Mr. Hill experimented with different types of clays and terra cotta bodies covering a range from tight burning to open burning bodies. These bodies he subjected to two distinct heat treatments:

1. Regular firing period with long cooling period.
2. Regular firing period with short cooling period.

Data was compiled from tests and observations on the finished pieces as to absorption, breaking strength, cracking, and so forth. The data in general showed that the tight bodies tended to fire crack, or cool crack, much more than the open burning ones.

7. "POSSIBILITIES OF CASTING TERRA COTTA," BY R. F. GELLER

This paper covered observations on some attempts to cast small pieces with terra cotta bodies prepared as casting slips. It was found to be very difficult to cast the typical terra cotta clays to any considerable thickness. This was due to the sealing of the slips shortly after casting had started.

8. "HUMIDITY DRYER FOR TERRA COTTA," BY M. E. GATES. 9. BY F. B. ORTMAN AND H. E. DAVIS

These two papers covered general information on two successful types of humidity dryers. Both dryers embody the principle of a practically air tight box. In the first dryer a re-circulation of moist air is maintained and the heat gradually increased.

In the second dryer the humidity is brought up to a high point, then the temperature is gradually increased, and lastly, the humidity is reduced to complete the drying. This type of dryer is under automatic control. Both dryers save considerable time in the drying operations and at the same time dry the ware very nearly perfectly.

⁂

Cleveland Wants Pottery and Glass Show

Some agitation is now developing among manufacturers and buyers to transfer the annual Pottery and Glass Exposition from Pittsburgh, Pa., to Cleveland, Ohio. Opinion on the question is divided. To have the exposition in Cleveland would remove it farther from the East Liverpool, Ohio, pottery center, which is the mecca for buyers in the January buying season. It is also said that western buyers could well drop off at Cleveland and make the rounds of the exhibits, then travel to the East Liverpool district enroute to New York, which is always the last stopping place for the buying fraternity in January.

George W. Kinney, president of the Kinney & Levan Co., of Cleveland, Ohio, large distributors of both domestic and imported ceramics, has "started the ball rolling", and is being backed by the Cleveland Chamber of Commerce. The Exposition is said to be worth over $100,000 to the hotels in any community in which it is established. Pittsburgh has always been the headquarters.

⁂

C. S. Maddock Speaks Before Rotarians

Charles S. Maddock, Jr., of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware products, gave an interesting talk before the members of the local Rotary Club at a recent meeting on the subject of "Bone China." He explained the manufacture of such material from clay, animal bone and feldspar and the utility of the production by his company in the manufacture of bathroom fixtures and small accessories. His address covered a number of historical references to the pottery industry, tracing operations as far back as 1749.

⁂

William Burgess Speaks on Japan

During a visit to Syracuse, N. Y., recently, William Burgess gave a lecture before members of the Onondaga Pottery Co. Mr. Burgess is well-known in the industry and has on more than one occasion handled affairs of national importance regarding it. He spoke upon his travels in Japan and illustrated his talk with pictures. Those that heard Mr. Burgess found his talk highly interesting and expressed a wish that they might have the pleasure of hearing him again at some future time.

⁂

Ground Broken for California Pottery

Various conflicting reports have been made with regard to the Homer Knowles Pottery Co., but the following information will serve to clear up the facts in the case.

Mr. Knowles who passed thru Chicago on his way to the East to make arrangements for machinery and equipment and to attend to other business matters, stopped in the offices of *Brick and Clay Record* long enough to tell of the plans of this enterprising concern. Mr. Knowles stated that ground was broken on Saturday, April 23, for the factory which will be constructed of brick and which will be 355 feet long by 121 feet wide. The clay shops will be extended out from this building. Three up-right kilns will be built immediately, and one tunnel kiln, the type of which has not yet been decided upon.

The factory will be located at Santa Clara, Cal., and will manufacture a high grade of dinnerware of two shapes and also hotel china.

The company is incorporated for $750,000 and when the first unit is completed will be capable of producing $1,500,000 worth of ware annually.

Homer Knowles, who is president and general manager comes from a family of potters. His grandfather started the business in 1853 and his father, the late Homer S. Knowles, one of the greatest potters of his time, started in the business when he was fifteen years old. They were very active in making the Knowles, Taylor and Knowles Co. of East Liverpool, Ohio, the enormous and well known concern that it is. The present Homer Knowles started to learn the practical end of the business before he was eighteen years of age, leaving school to take up the work of his father. He has done actual work in every department of the industry and was superintendent of the Knowles, Taylor and Knowles Co. when he resigned last August.

⁂

Hold Exhibit of Luster Ware

The Newark Society of Ceramic Art held its annual exhibition at the Free Public Library Building, Newark, N. J., during the week of April 18-23. The exhibit was one of the most successful ever arranged by the organization. Luster ware was the predominating feature of the show.

⁂

Wage Scale for Tunnel Kiln Work Disputed

Secretary-Treasurer John T. Wood, of the National Brotherhood of Operative Potters, found it necessary to make trips to Mt. Clemens, Mich., and Erwin, Tenn., as the result of two labor disputes in the pottery industry. A controversy over the wage scale for work on a tunnel kiln caused the shutting down of the plant of the Kresge interests at Mt. Clemens. East Liverpool potteries continued to operate without interruption.

⁂

Enamel Brick Company to Build

The Enamel Brick & Tile Co., Old Bridge, N. J., has completed plans for the construction of a new one-story machine shop at its plant, 50x80 ft. A portion of the structure will be used for the storage of colors and kindred products. The new building will cost about $15,000.

⁂

Pottery Company Formed in New York

The Genesee Pottery Co., Chittenango, N. Y., has been incorporated with a capital of $5,000 to manufacture pottery specialties. The incorporators are A. W. Surles, J. H. Thompson and J. M. Moir, all of Marcellus, N. Y.

⁂

Porcelain Company Formed

The Everready Porcelain Co., of East Liverpool, Ohio, has been incorporated under the laws of Ohio to manufacture and sell porcelain of all kinds. The incorporators are: J. T. Smith, D. Smith, H. E. Hoenig, R. Scheilander and R. Leade.

⁂

Twelve Kiln Pottery to Be Built

Fred Sebring, president of the Saxon China Co. of Sebring, Ohio, has announced plans for the erection of a twelve kiln pottery at Columbiana, Ohio, east of here. Youngstown, Ohio, bankers will aid in forming a $450,000 corporation. Columbiana will provide the site.

Will Save $1,000 Monthly by Electrifying

Savings approximating $1,000 a month will be effected in operation of the plant of the Tropico Potteries, Inc., at Glendale near Los Angeles, thru complete motorization which is now being installed, according to estimates of F. B. Ortman, manager of the plant. Production will also be increased twofold he believes when the motorization is completed and electricity has supplanted steam.

The grinding and preparing of all clays, manufacturing of sewer pipe, tile, water pipe, flue lining, chimney pipe, etc., and the operation of all dryers, presses, elevators, conveyors and machine shop will be carried on with electrical equipment.

What is felt by the management to be another step forward in the manufacture of architectural terra cotta is the recent installation of hot air dryers in the press rooms. The speeding up of drying over the former method permits of using half the number of molds per man that were necessary before, thus saving considerable floor space.

A humidity dryer giving direct heat which will increase the terra cotta output to four times the present capacity in the opinion of the management, is being installed in the drying room. A saving of several hundred dollars a month over the old steam heat method will result from use of the new humidity dryer it is said.

Some idea of the size and the variety of operations at the plant of the Tropico Potteries, can be gained from the report that the concern is now employing 150 men and sending out twenty cars of finished product weekly. Sewer pipe is also being manufactured and a recent consignment to Huntington Beach, Calif., totaled 20,000 feet. Altogether, it is said, an average of about 1,100 tons a month is the output of the potteries.

⁂

Trenton Company to Make Floor and Wall Tile

The Boving Mfg. Co., 111 East State Street, Trenton, N. J., has been organized with a capital of $100,000 to manufacture wall and floor tile, and fine ceramics. The company is headed by Paul C. Boving, Christian O. Osterberg and Charles J. Falcey.

⁂

Flint and Spar Company Builds

The Trenton Flint & Spar Co., Marion Street, Trenton, N. J., has completed plans for the construction of a two-story addition to its flint department, 30x190 ft. A new motor and mechanical building, one-story, 30x50 ft., will also be erected. The work is estimated to cost about $75,000.

⁂

California Silica Beds to be Mined

Extensive deposits of feldspar and silica in the Lake View section near Nuevo, Riverside County, Cal., are to be mined by the American Encaustic Tiling Co., Ltd., of New York and Los Angeles.

⁂

Establish Court of Commercial Arbitration

Frank B. Slupesky, credit manager for the United States Encaustic Tile Works, of Indianapolis, has, in his capacity of chairman of the commercial arbitration committee of the Indianapolis Association of Credit Men, put over one of the greatest pieces of work of the present year, thru the organization of a court of commercial arbitration for the city. Mr. Slupesky has made a careful study of similar courts in Illinois and recently the Indianapolis court was put into operation. Its function is to settle business disputes of a character that, were they tried in the civil courts, would take months for settlement.

⁂

Feldspar Plant to Be Built

Contracts have been let for the erection of a new mill of the Western Silica Co. at Fifty-seventh and Santa Fe streets, Los Angeles, for commercial grinding of silica and feldspar. The total capacity of the first unit will be thirty-five tons per day.

⁂

Heavy Demand for Flower Pots

The Louisville (Ky.) Pottery Co., according to K. P. Snyder, is finding business on stoneware a little dull but has been getting a fair demand for flower pots, which were especially good just before Easter in supplying the usual heavy demand for spring plants.

⁂

California to Have Another China Company

The Pope China Co. has been organized and is said to be negotiating for a site at Riverside, Cal. William Pope formerly of the Pope-Gosser China Co., who withdrew from that organization several years ago, is said to be heavily interested in the new enterprise.

⁂

Will Make Spark Plugs for Ford

The Bethlehem Spark Plug Co., Bethlehem, Pa., has secured a large contract from the Ford Motor Co., Detroit, Mich., covering the furnishing of all spark plugs for Fordson tractors, and a certain quantity of plugs for Ford cars and trucks. The spark plugs will be of the regular Bethlehem porcelain type.

⁂

Finds Huge Deposit of Pottery Clay on Ranch

A deposit of pottery clay has been located at Superior, Mont., it is reported. The vein is ninety-four feet deep, sixty feet wide and extends for a long distance. R. J. Kitching is credited with being the discoverer, the deposit being located on his ranch. Mr. Kitching has had tests made of the clay and has received very favorable reports on the quality.

⁂

Want Pottery at Cedar Rapids, Iowa

At a meeting of the West Cedar Rapids (Iowa) Commercial Club the possibilities of securing the erection of one or more pottery plants in that city were discussed. It was hoped that this industry would be represented in Cedar Rapids and the benefits accruing to the community from a pottery plant were pointed out.

⁂

Incorporate New China Company

The United States China Co., New York, N. Y., has been incorporated with a capital of $5,000 to manufacture hotel chinaware, etc. The incorporators are M. Prager, H. B. Simon and E. L. Fickler, 210 Livonia Avenue, Brooklyn.

⁂

Is Now a Million Dollar Concern

Maddock & Miller, Inc., New York City, earthenware products manufacturers, have filed notice of increase in capital from $600,000 to $1,000,000.

LENOX INC., ind

No. 1—"Proctor" Automatic Stove Room (feed end) Drying "Lenox" Cups.

The new plant of Lenox, Inc., Trenton, N. J., is modern in every respect. Modern, efficient methods have been adopted in all departments where such a policy is consistent with Lenox standards of excellence in Chinaware.

Throughout the plant is maintained a rigid policy of using only the methods and materials which contribute to a final product of surpassing quality.

"Proctor" Automatic Stove Rooms have earned a place in this plant because they fulfil the most exacting requirements of quality in drying results.

No. 2—"Proctor" Automatic Sagger Dryer in "Lenox" Plant.

Partial view of the installation of "
Trenton, N. J. The two "Proctor"
drying cups of the highest quality
Automatic Stove Rooms—one, dry
Close-up views of these machines a

"Pro

PROCTOR & SCHWA

Branch Offices—Chicago,

e quality DRYING

ryers in the plant of Lenox, Inc.,
Stove Rooms, shown above, are
Near-by are two more "Proctor"
; the other, drying scrap porcelain.
the accompanying illustrations.

No. 3—"Proctor" Automatic Stove Room (delivery end) Drying "Lenox" Cups.

"Proctor" Dryers always make the user sure of perfect uniformity in drying general ware, saggers, electrical porcelain, tile, and other articles of whiteware. This perfectly uniform drying prevents warping and cracking, makes spoilage a negligible quantity and insures better ware.

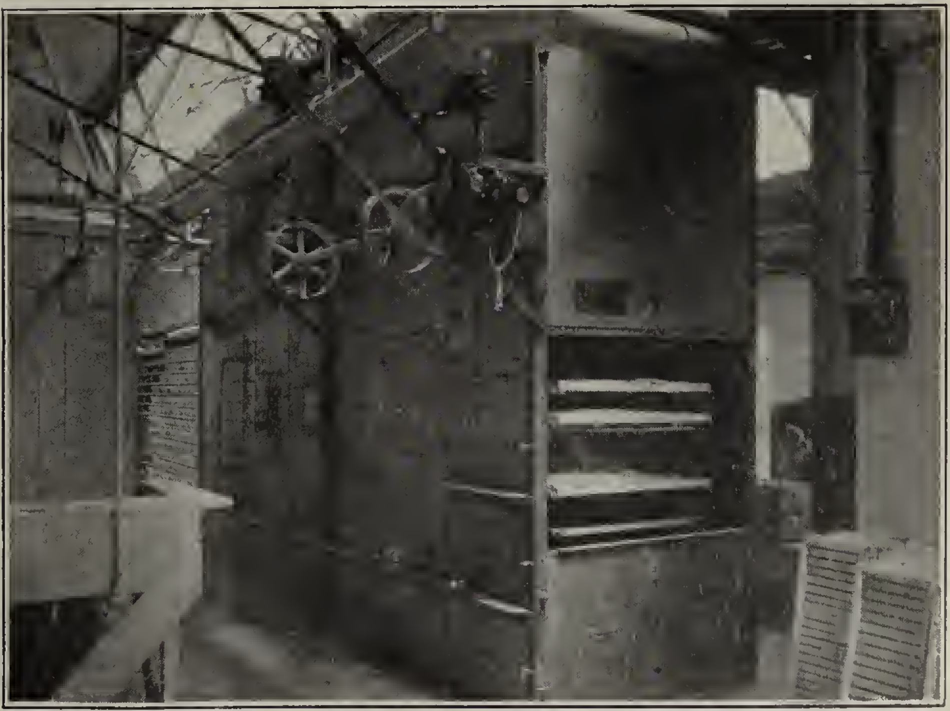
These machines are vastly more efficient and economical than old stove rooms. They supply the nearest approach to completely automatic operation, making radical savings in time, as well as in space and labor, over old drying methods.

For these important reasons, "Proctor" Dryers, Automatic Stove Rooms, and Mangles are recognized as a necessity to combined quality and economy in Whiteware production.

tor"

RYERS

Inc., Philadelphia, Pa.
h, New York, Providence



No. 4—"Proctor" Automatic Dryer for Scrap Porcelain in "Lenox" Plant.

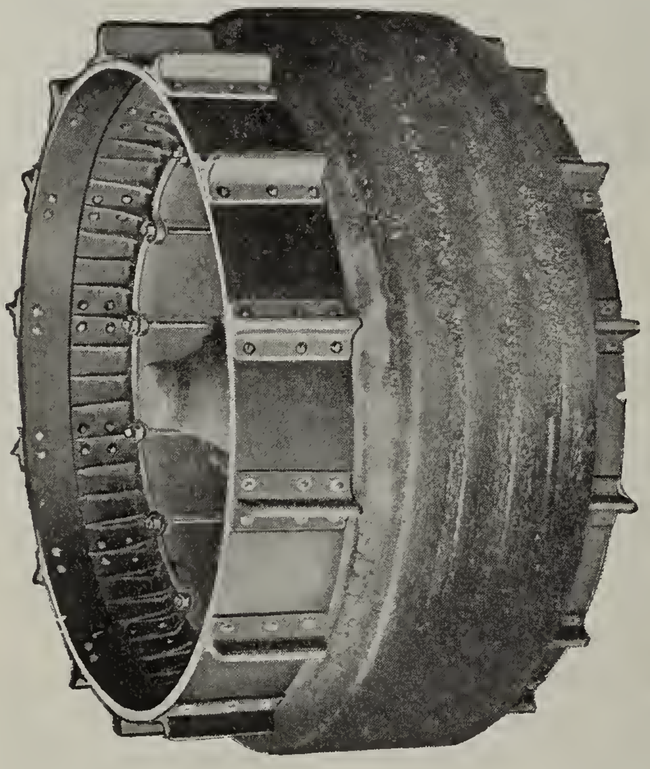
The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Will Help Motor Truck Out of Mud

To get stuck in the mud is only a natural occurrence for motor trucks used by clay plant operators. Conditions are frequently conducive to such happenings.

In the first place, it is not infrequent for a clay plant to be located on the outskirts of a town where good roads have not as yet been constructed. Also, the motor truck by reason of its great utility, has found use in hauling clay from the quarry to the plant. It being the business of the truck to haul clay, it is only natural that muddy and difficult conditions often exist around the pit.



The Foley Traction Rim.

A unique patented device has been designed which comes to the rescue of the truck owner who has difficulty in meeting with conditions conducive to the truck getting stuck in the mud. It is a simple device and its practicability is apparent at a glance. The device is a traction rim which consists of a solid steel tube run that is fastened on each side of the tires of the rear wheels of a truck and about two inches below the rubber tire. Each rim is about three inches wide but they are also made in wider sizes.

Running on an ordinary paved road the teeth do not touch the ground, but rolling over soft ground where the tires sink two inches, the weight is automatically borne by the steel rims. The two inch teeth afford a leverage that will pull a truck out of anything providing the engine has sufficient power to turn the wheel. These rims may be used on both solid and pneumatic tires, and can be attached to a truck in about thirty minutes' time.

* * *

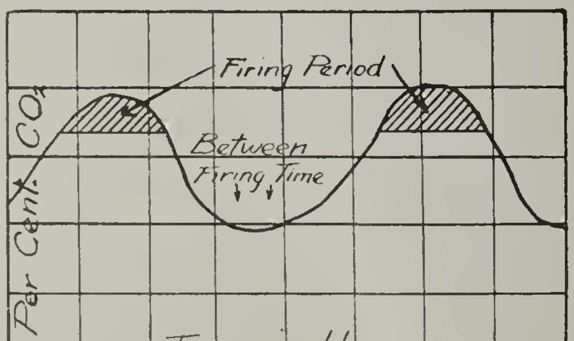
Improved Method of Cleaning Used Brick

An ingenious method of cleaning old brick, salvaged from razed buildings or walls has been put to use by a prominent construction company. An ordinary pneumatic chipping hammer is used with a very broad faced chisel. The blows of the hammer are not strong enough to injure the brick and enable the workman to clean about 3,000 per day as compared with 650 by the old hand method of cleaning. In addition, the brick are cleaned much more efficiently and uniformly.

It was found that the best and fastest way was to lay the brick out on a table side by side, so that they formed a comparatively flat surface. The operator cleaned approximately 100 brick on one side before it was necessary for him to turn them to clean the other side and edge.

A saving of seventy-five per cent. over the old method

The Penalty of Incomplete Oxidation and How to Operate Fires



The penalty for not carrying oxidation to its finish has already been mentioned. Iron carbonate when it is oxidized takes form of ferrous oxide. It must be further oxidized to ferric oxide. The ferrous oxide is a very active flux and brings about vitrification before the ware is really ready for it. This means that as soon as the temperature is high enough ferrous oxide will combine with the silica to form a ferrous silicate, which vitrifies or fuses suddenly, thus enclosing that portion of the brick still containing carbon. As long as there is carbon left in the ware the iron will remain in the ferrous state. Any carbonic acid or carbon monoxide forming will cause a pressure which bloats the brick, misshapens it, or at least causes the structure to become vesicular and weak. This formation of ferrous silicate takes place, it must be remembered, far below the proper vitrification temperature, where the iron is present as ferrous oxide.

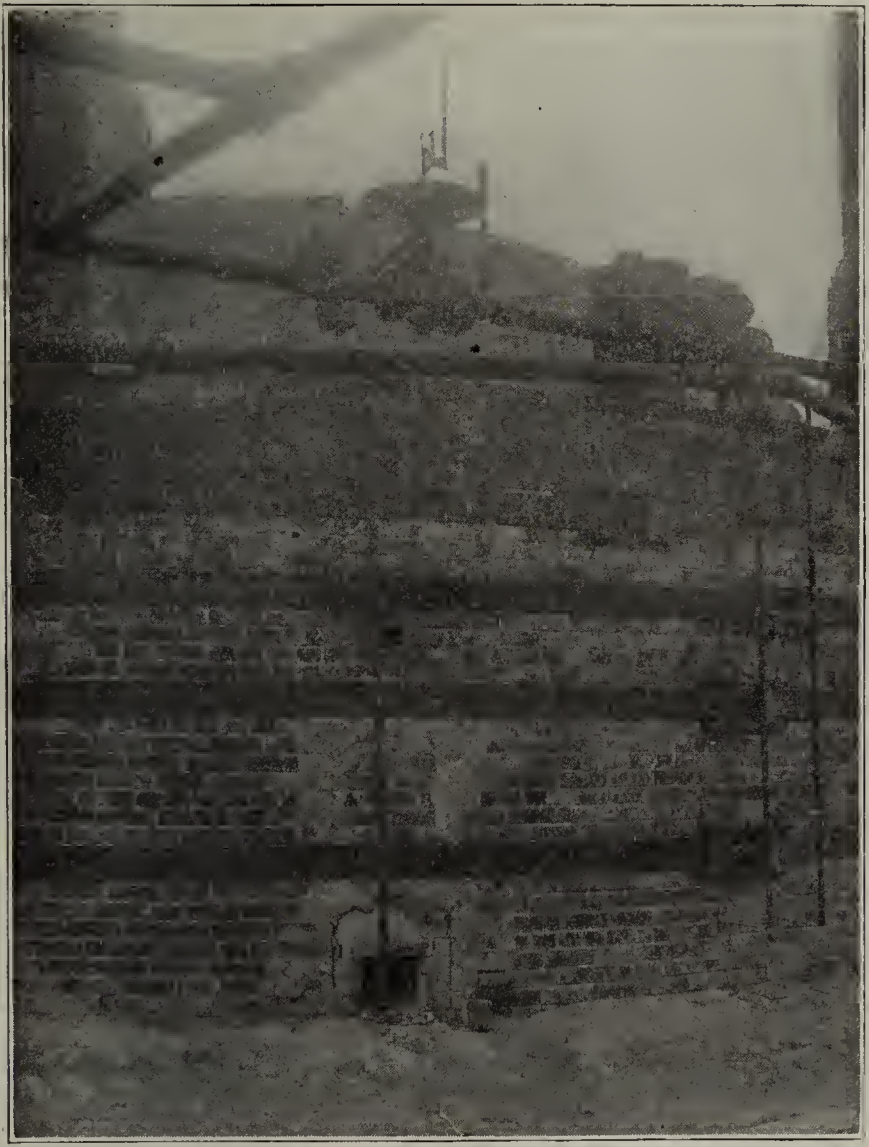
As for the manipulation of the fires during the oxidation period, it is best not to fire too often since this raises the percentage of carbon dioxide in the kiln whereas there should be an excess of air in this stage of burning. It is usually sufficient to fire it at forty-five minute intervals during the oxidation period. The carbon dioxide curve would show the highest percentage of carbon dioxide in the kiln immediately after each fire, as is illustrated in the accompanying curve. It is the oxidation period of all stages in burning where there must be plenty of air in the kiln since it is by means of the air which combines with the carbon in the ware, that we remove the carbon in the form of carbon dioxide.

was effected by this pneumatic way of cleaning. The labor cost was the same as for the old method, compressed air averaged approximately two cents per hour per hammer. Cleaning brick by hand it was estimated the cost amounted to $5.55 per thousand against $1.26 by the mechanical method.

* * *

Use Registers on Gas Lines

In burning with natural gas it is possible to burn any kind of fire brick if a pressure of 12 to 18 ounces, depending upon the calorific value of the gas, is available. It is very important to have a gas regulator on each kiln, with plenty of pressure back of it so that the delivery of the gas is made uniform. Registers should also be used since there will be quite a variation even in burning the same kind of kilns and it will enable the burner to be guided in the regulation of the gas supply and will thus effect a great saving.



Installation of Gas Lines on a Periodic Round Down-Draft Kiln Including Regulator and Register.

* * *

Getting Together with the Dealer

Approximately forty Ohio manufacturers of face brick gathered together at a division meeting of the American Face Brick Association, on April 13. The discussions reverted mostly along the lines of obtaining greater co-operation between the dealer and manufacturer. The dealer is usually in closer touch with the prospective builder and therefore knows what types and textures of brick are most sought. It was suggested that an effort be made to have the dealer specify the brick which are most popular. It was also suggested that the manufacturer keep the dealer informed as to the stock on hand so that the dealer may be certain of being able to supply the brick of which he is exhibiting samples.

LESCHEN Wire Rope

Our greatest asset is the reputation of our product, and it is our policy and our purpose to maintain at all times the high and dependable quality that has built up our business.

Established 1857

A. LESCHEN & SONS ROPE COMPANY

Makers of HERCULES (Red Strand) WIRE ROPE

Chicago New York ST. LOUIS Denver San Francisco

Economy

It's the years of satisfactory, uninterrupted service that determine the economy of a clutch—not the original cost.

Because Caldwell Clutches are constructed **right**, with a minimum number of parts, strength in just the right place, and only one adjustment, they are positively trouble-proof. Operating according to the principle of an automobile brake, the flexible Raybestos-lined band grips the entire circumference of the friction ring and transmits all the power evenly, quickly, surely. They obviate costly shutdowns and continue to give satisfactory service year after year.

Send for Catalog

W. E. Caldwell Co.
Incorporated
400 E. Brandeis St., Louisville, Ky.

Caldwell FRICTION CLUTCHES

ORIGINAL Boss SYSTEM **Boss Ten-Hour Dryer** ORIGINAL Boss SYSTEM

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

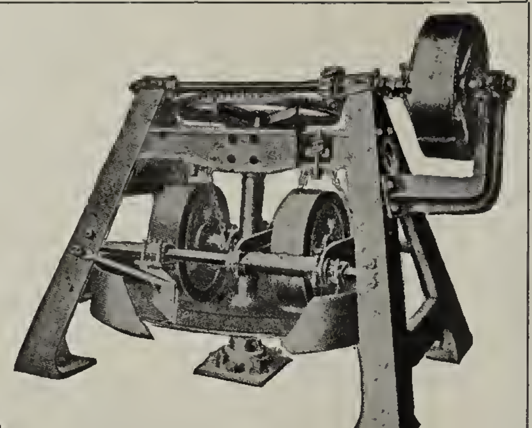
Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

ORIGINAL Boss SYSTEM **J. C. Boss Engineering Co.** Elkhart, Indiana ORIGINAL Boss SYSTEM

B STANDARDIZED MATERIAL-HANDLING MACHINES G

Barber-Greene-Co
Aurora-ILLinois.

Makers of the original B-G Standardized Belt Conveyors. B-G Self-Feeding Bucket Loader.



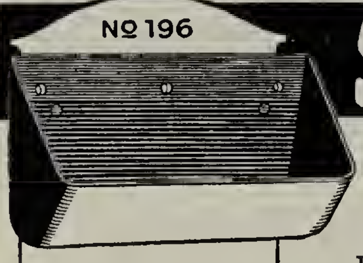
THE EAGLE DRY PAN

Write for Prices

EAGLE IRON WORKS DES MOINES IOWA

RICKETSON'S MORTAR COLORS
YOU CAN'T FADE 'EM

If they are colored with Ricketson Brand
Mortar Colors
Home builders demand a beautiful color with their brick. Ricketson's colors give brick charm, freshness and warmth in appearance.
40 years proves their permanency.
For Brick, Mortar, Cement, etc.
RICKETSON MINERAL PAINT WORKS
Milwaukee, Wisconsin



NO 196

SALEM ELEVATOR BUCKETS

Low front permits No. 196 to handle damp materials easily. Shallow depth allows quick discharge. Also elevates at low angles and will work in a boot.

Premium winners in 1880—the best on the market ever since. Absolutely dependable under all conditions. A complete line that fulfills every need. Write for literature and price list.

Mullins Body Corporation
Stamping Dept. "A"
101 Mill Street Salem, Ohio.
Successors to The W. J. Clark Co.

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Ontario Producer Wants Data on Color

971. *Ontario—Can you inform us as to the best method of deepening the color of our products? We are manufacturing floor tiles from blue-grey shale and have difficulty in burning them a deep enough red. We burn our ware in round downdraft kilns.*

Any hints you can give us as to the best method of burning, or how one might add chemicals such as iron-oxide and so forth, to the raw material to get a good red color, will be very much appreciated.

The problem of obtaining a good red color of a clay product is a common one in the clay industry. The natural color to which a clay will burn depends, of course, upon its chemical constituents. It is the iron content that gives the clay a red color.

Other constituents in clay such as silica, alumina and lime, have an effect upon the kind of color obtainable. For instance, a highly aluminous clay containing iron will burn a dull brown red, a siliceous clay will burn a bright red color, while a calcareous clay will burn a salmon or buff color.

The same percentage of iron may in one clay give a red color while in another only a buff color or yellow. This is by reason of the effect of other constituents in the clay.

The effect of iron as a coloring agent, depends not only upon the quantity in the clay but also upon the degree of oxidation and upon the physical and chemical conditions of the clay. Furthermore, it is positively necessary that the iron be disseminated finely and thoroly thruout the entire mass of the clay. A finely divided hematite ore, or a finely divided mineral paint made by roasting iron sulphate, has been added in some cases to obtain a red color in the clay. This process, of course, is quite expensive.

One should endeavor to secure a cheap red burning clay which might be mixed with the regular shale on hand to give the proper color. Such clays are often obtainable near at hand and are quite effective when they do not destroy the good working qualities of the basic clay. A clay such as the Albany slip clay might be of considerable aid in developing colors of clay.

A. W. Williams, some time ago, made a number of experiments to improve the color by treating the column. The effect of volatilizing ferric chloride in a kiln was also tried. A test kiln was set with one-half of the brick burned to 1,000 deg. C. in forty-eight hours. One-half pound of ferric chloride was then put in each of the two fire boxes, the damper closed until the fumes were coming very slightly out of the fire boxes and the kiln kept in that condition for one-half hour. The kiln was then fired in the regular manner and samples drawn one-half hour later. This treatment seemed to have had no appreciable effect on the color.

The temperature of the kiln was then raised to 1,100 deg. C. and ferric chloride used in the same manner as above, but with the same results. Finally, the kiln was finished at 1,150 deg. C., at which time one-third treatment of ferric chloride was given, after which firing was discontinued and the kiln cooled in the

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

regular way. When the kiln was opened everything was flashed to a dark brown color, but whether or not the high temperature and somewhat reducing conditions were as much the cause of the color as the ferric chloride is an unsettled question.

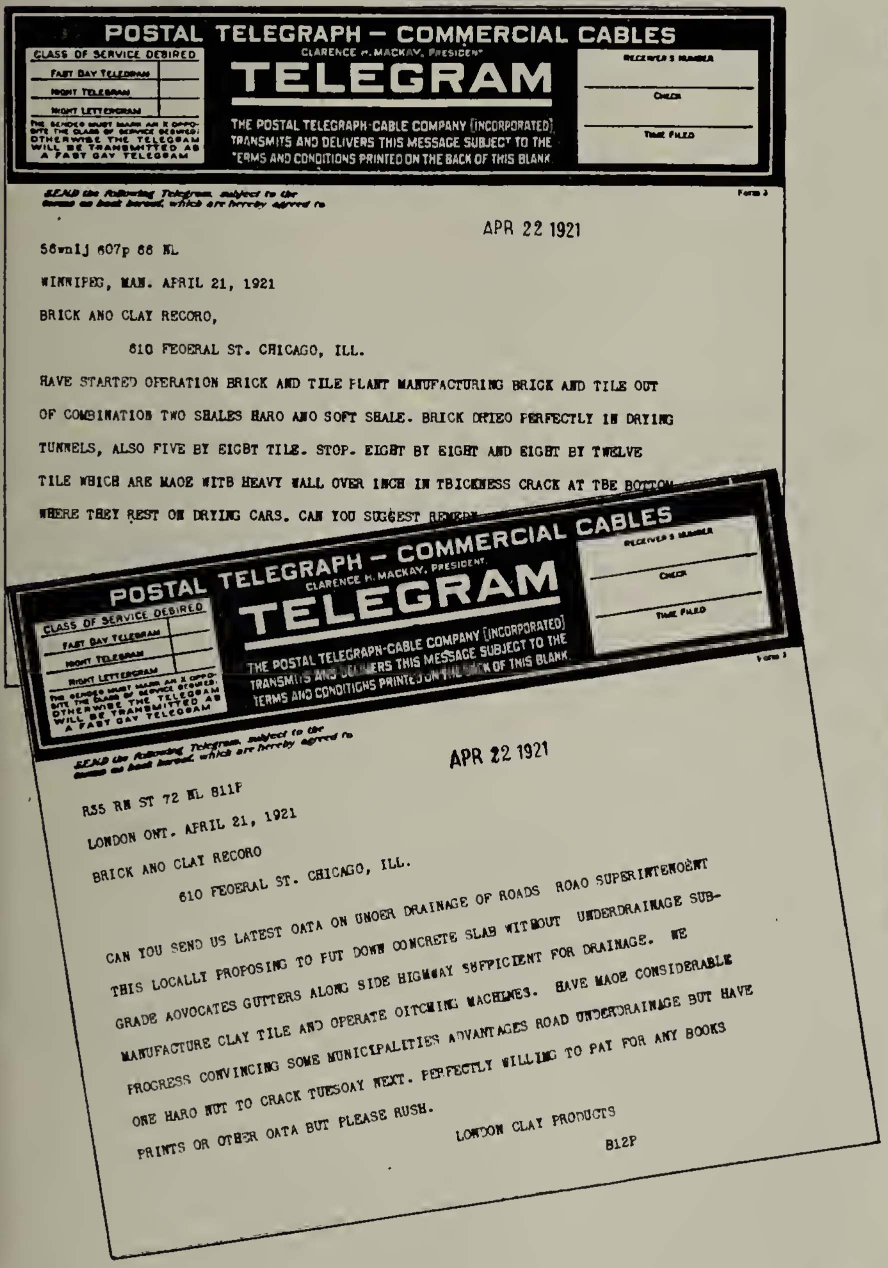
The results at that time indicated that ferric chloride was assisting the flashing somewhat, but more especially was producing good, clean, red colors, free from scumming.

The problem of endeavoring to secure a bright red color in a clay product that will not naturally burn red is a difficult one and one is very likely to be disappointed in one's endeavors to secure a desired shade.

⁂

At Your Service

It is not uncommon for *Brick and Clay Record* to receive requests like those below for information that will aid the manufacturer. These two telegrams are reproduced, however,



POSTAL TELEGRAPH — COMMERCIAL CABLES

CLARENCE H. MACKAY, PRESIDENT

TELEGRAM

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APR 22 1921

56wnlj 607p 66 NL

WINNIPEG, MAN. APRIL 21, 1921

BRICK AND CLAY RECORD,

610 FEDERAL ST. CHICAGO, ILL.

HAVE STARTED OPERATION BRICK AND TILE PLANT MANUFACTURING BRICK AND TILE OUT OF COMBINATION TWO SHALES HARD AND SOFT SHALE. BRICK DRIED PERFECTLY IN DRYING TUNNELS, ALSO FIVE BY EIGHT TILE. STOP. EIGHT BY EIGHT AND EIGHT BY TWELVE TILE WHICH ARE MADE WITH HEAVY WALL OVER INCH IN THICKNESS CRACK AT THE BOTTOM WHERE THEY REST ON DRYING CARS. CAN YOU SUGGEST

POSTAL TELEGRAPH — COMMERCIAL CABLES

CLARENCE H. MACKAY, PRESIDENT

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Form 2

APR 22 1921

R55 RN ST 72 NL 811P

LONDON ONT. APRIL 21, 1921

BRICK AND CLAY RECORD

610 FEDERAL ST. CHICAGO, ILL.

CAN YOU SEND US LATEST DATA ON UNDER DRAINAGE OF ROADS ROAD SUPERINTENDENT THIS LOCALLY PROPOSING TO PUT DOWN CONCRETE SLAB WITHOUT UNDERDRAINAGE SUBGRADE ADVOCATES GUTTERS ALONG SIDE HIGHWAY SUFFICIENT FOR DRAINAGE. WE MANUFACTURE CLAY TILE AND OPERATE DITCHING MACHINES. HAVE MADE CONSIDERABLE PROGRESS CONVINCING SOME MUNICIPALITIES ADVANTAGES ROAD UNDERDRAINAGE BUT HAVE ONE HARD NUT TO CRACK TUESDAY NEXT. PERFECTLY WILLING TO PAY FOR ANY BOOKS PRINTS OR OTHER DATA BUT PLEASE RUSH.

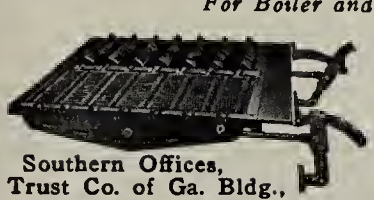
LONDON CLAY PRODUCTS

B12P

Fac-Simile of Two Telegrams Received in Office of "Brick and Clay Record" Requesting Help.

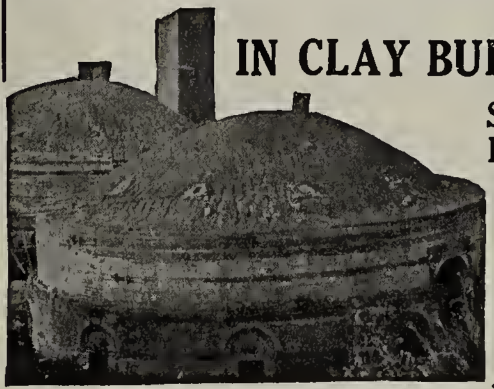
USE OIL—The Ideal Fuel
Meet FALLING PRICES
By INCREASED EFFICIENCY
And LOWERED COST OF PRODUCTION
Results Guaranteed With
"CAHCO" COMPLETE OIL BURNING SYSTEMS
C. A. HOPPIN & COMPANY
Engineers—Constructors
Central National Bank Bldg. Peoria, Ill.
Monadnock Block Chicago, Ill.

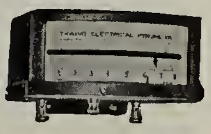
BURN ANY COAL
Never mind the quality; put it up to
CANTON Rocking and Dumping Grates
to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.
For Boiler and Kiln Grates



Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.
CANTON GRATE COMPANY
1706 Woodland Avenue,
Canton, Ohio

THWING PYROMETERS
IN CLAY BURNING





SAVE FUEL
Save Burning Time
Write for full information
THWING INSTRUMENT CO.
3347 Lancaster Ave.
Philadelphia, Pa. 99

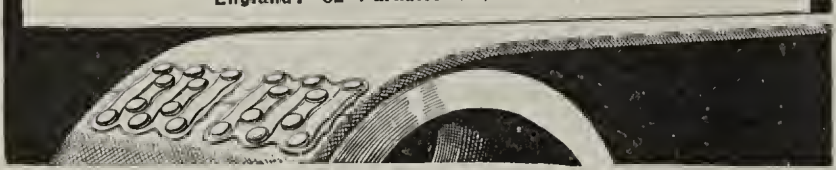
ONE MAN DIGGER
for the CLAY and TILE PLANT PIT
Designed especially to handle material for the average brick or tile plant.
Dependable, efficient, economical—oil engine operated
LOW IN PRICE—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.
Write for complete data
BAY CITY DREDGE WORKS
2619 Center Avenue :: Bay City, Michigan

CRESCENT BELT FASTENERS
"Make Good Belts Give Better Service"

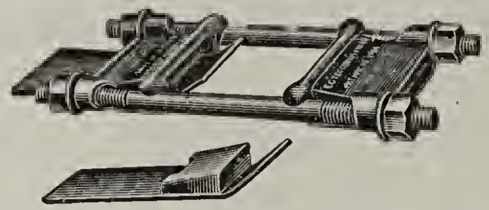
Once on, Crescents are on to stay. A Crescent joint will outlast the most durable belt. No part of belting is punched out or weakened. Maximum strength maintained. Belt runs same as endless on pulley side. No knocking or thumping. Noiseless. Joint hugs pulley. Full power transmission insured.

Write for new Booklet W on Increasing Belting Efficiency.

CRESCENT BELT FASTENER CO., 381 Fourth Ave., New York
Canadian Branch: 32 Front St., West, Toronto, Canada
England: 32 Paradise St., Birmingham



TECKTONIUS
Malleable Iron Kiln Band and Plate Fasteners



The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.

E. C. TECKTONIUS MFG. CO.
1202 Racine treet RACINE, WISCONSIN

UNLOADING FOR 3 CENTS PER TON

Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.
The Columbus Conveyor Co., Columbus, O.

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

because they both happened to come the same day and both were from Canada. It is also coincident that a third request for information, which came in by mail, however, was received from Canada on the identical day.

Brick and Clay Record did its best to supply the information desired and is glad to be of this service to the industry at no charge to the subscriber. Incidentally, *Brick and Clay Record* is glad to have the faith and confidence of its subscribers in its ability to serve them in solving the many confounding questions that confront the producer each day. This is exemplified not only by the above telegrams, but by the countless letters that are received every day.

The LETTER BOX

A Place Wherein Letters
That Have General Interest Are Published and
Commented Upon

Shall We Have New Size for Common Brick

Several letters have been received commenting on the letter printed in the April 5 issue of *Brick and Clay Record* regarding a new size for common brick as an improvement in the building of the new brick hollow wall. This letter was written by C. W. Martin, president of the Phenix Clay Corporation, Dallas, Tex. We are printing in this issue two of the comments received in answer to Mr. Martin's. The first one is from Edward R. Coonley, secretary-sales manager of the American Fire Brick Co., Spokane, Wash., and the other from the Coffeyville (Kas.) Vitrified Brick & Tile Co. Mr. Martin's letter is reprinted immediately below.

"I have read with a great deal of interest your write-up of February 8, describing the new brick hollow wall.

"A hollow wall of brick is, of course, very desirable not only from the fact that it lessens the number of brick used and the weight of the wall, but also the comfort of the building as it makes it absolutely impervious to dampness, heat and cold. The blanket of dead air which circulates from bottom to top, the bottom being below frost line, makes it, of course, the most perfect non-conductor of cold possible.

"I would suggest, however, that a better form of hollow wall than laying the brick on edge with a header brick every eight inches, would be to make the brick nine inches long by three inches wide instead of the present standard of two and one-quarter inches by eight and one-quarter inches. By using this brick and laying a header after six stretcher brick instead of one will require exactly the same number of brick to build a nine inch wall as required in the way you suggest it laying them on edge with a header brick every eight inches.

"This construction will be better in appearance as it will not change the present way of facing a brick wall. Ordinarily the side of a brick does not make as nice a face as the edge. Besides it will still permit of the various ways now used in making mat brick attractive.

"This form of construction will not interfere with the present way of selecting face brick but would require the use of the same size brick for common brick. This form of hollow wall is desirable for all kinds of buildings.

"It does seem strange that the solid brick wall which permits water to follow the mortar thru should have been used for so many centuries, but when our attention is called, that it took over two thousand years for man to learn that it is possible to put on a shirt without climbing thru it, we understand why custom is so hard to change.

"When lumber was plentiful, cheap and easily secured Americans formed the habit of making their homes of the same material matches are made. Just why they should prescribe fire limits in that part of cities where their goods are kept and have no restrictions about putting fire traps where the lives of their families are in constant danger, is just as strange as the shirt story. Yet, only a few modern cities have broken away from that bad habit. When the others follow such modern cities as El Paso and Denver, the annual fire loss will be reduced more than enough to pay the extra cost of building permanent houses.

"Recently a revenue collector who had been accustomed to allow five per cent. depreciation on wood homes, estimating the life of such buildings at twenty years, told a tax payer he was allowed depreciation according to the time his buildings were expected to stand, who answered that he did not know but they had already stood four hundred years and he supposed would last that much longer. He was allowed one-fourth of one per cent. depreciation. The houses were masonry, located in the Isle of Wight. This tax payer is very proud of this home of his ancestors. How about yours?"

EDWARD R. COONLEY'S REPLY

"Note with interest the suggestion of C. W. Martin, president of the Phenix Clay Corporation, Dallas, Texas, for a new size of brick nine inches long by three inches wide to permit of hollow brick wall construction.

"In the writer's opinion, the hollow brick wall is but a substitute for the more approved wall of standard size common or face brick wall backed with hollow tile.

"Instead of attempting the impossible (setting a new standard size on face brick), would it not be better judgment to continue the education of the public in the use of face brick and hollow tile backing?

"In defense of hollow tile, which for the past ten years rapidly replaced both wood and cement, and no doubt many common brick jobs, particularly in the western states, where both wood and cement had gained a solid foothold, the writer begs to advise that the campaign on hollow clay tile and the publicity given to this type of construction, has accomplished wonders in the education of the public and the use of permanent construction, by which common brick manufacturers have been benefited as well as the hollow tile and face brick manufacturers. The gain in popularity of hollow tile construction is increasing in leaps and bounds to the chagrin of the lumber interests and the writer suggests that the common brick manufacturers, where possible, install a hollow tile plant and give the dear public anything it wants, so long as it is made of burnt clay.

"At a meeting of the common brick manufacturers' association in Spokane the latter part of 1920, we had the pleasure of listening to Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America, and among other things he made the statement in effect as follows:

'It is a well known fact that a solid brick wall is the ideal construction and is just as good insulation against heat, cold or dampness as a hollow wall.'

"In face of the recent recommendation of the hollow brick wall, recommended as insulation against heat, cold and dampness, the writer would be interested to know just how Mr. Stoddard was justified in making the statement accredited to him.

"It may be gathered from the above that the writer is an ardent booster of hollow tile construction, however, that is only part of the booster program, and as secretary-sales manager of the American Fire Brick Co., Spokane, Wash., for the past thirteen years, we have been forced to manufacture a diversified line of clay products such as sewer pipe, flue lining, wall coping, partition tile, drain tile, fire brick, face brick, paving brick, common brick, and last but not least, Heath hollow tile, all at our factory at Mica, Wash. However, beg to advise that we have recently erected a large plant in the City of Spokane, two miles from the center of the city, a plant which will eventually turn out millions of common brick, and incidentally many tons of Heath hollow tile."

WHAT COFFEYVILLE BRICK & TILE CO. THINKS

"We have read the letter in the *Brick and Clay Record* of April 5, suggesting the making of both facing and common brick, a size of 3x9x3¾ in place of the present standard size of both facing and common brick, for the new hollow wall.

"It is our opinion that by comparison of costs of several sections of different sized brick in different size or thicknesses of walls, the old-fashioned way of laying the facing brick in the hollow wall is cheaper than to attempt to lay it on edge, either in its present size or in the new thickness.

"The new hollow wall calls for a header which can be every other brick or further distances and hence there is considerable facing brick lost in the header.

"Common brick, we believe, would be an impractical size in the 3x9x3¾ as there would be many factory and other heavy walls that would not care for the hollow wall.

"Believe you will agree that the original purpose as well as the present and future purpose of the hollow wall is for using the best of any common size builders or off grade facing or

BRISTOL'S RECORDING PYROMETER

tells the workman at a glance just what the temperature conditions are now, what they have been, and in what direction they are leading. With this knowledge he can readily obtain close regulation—and even inexperienced workmen can do better work.

Get copy of Bulletin AE-291

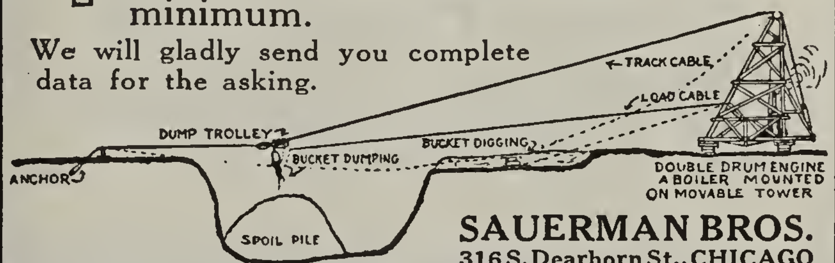
THE BRISTOL COMPANY - Waterbury, Conn.

SAUERMAN
Dragline—Cableway—Excavator

Digs, Conveys and Dumps in one operation.

Cuts labor and digging costs to a minimum.

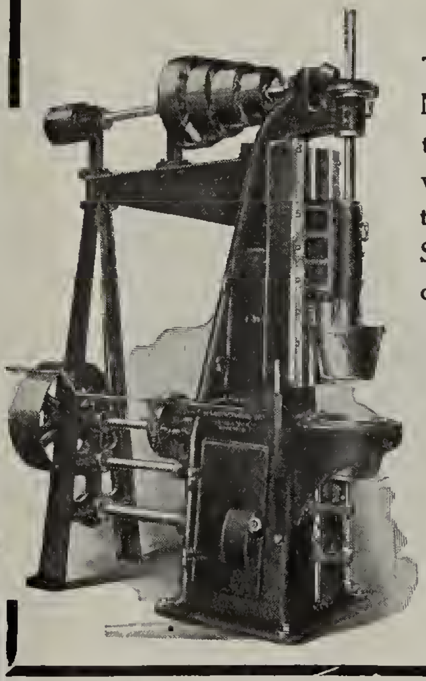
We will gladly send you complete data for the asking.



SAUERMAN BROS.
316 S. Dearborn St., CHICAGO

Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?



The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
409-11 Jefferson Avenue E.
DETROIT, MICHIGAN

Toronto
"Means"
Dependability

You can *depend* on
Toronto Clay Working Machinery
for Results

SEND US YOUR INQUIRIES

Toronto Foundry and Machine Company
Toronto, Ohio

ELEVATING
MACHINERY
FOR
BRICK & CLAY
PLANTS

Complete bucket elevators with or without steel casings, buckets fitted to chain or belt. Shelf buckets, standard steel buckets, malleable buckets,—chain, etc.

H. W. CALDWELL & SON CO.
CHICAGO, 17th St. & Western Ave.
NEW YORK 50 Church St.
DALLAS, TEX. 709 Main St.

paving brick and under no consideration, a facing brick because the broad side of facing brick is not nearly as good looking as the thin, regular size for facing.

"We are endeavoring by local as well as general campaign to get the small, cheap home builders to substitute these hollow walls, using the common brick, for frame and hollow tile.

"Really the cheapest kind of common brick laid up either in the hollow wall or the old way, is a better looking proposition and is cheaper than the average frame wall or hollow tile with stucco and you know hollow tile is not presentable without a costly stucco face."

The above letters show that the new brick hollow wall has aroused the interest of every clay products manufacturer in its possibilities. It is safe to say that this new idea is going to receive a trial by the public and if found practical and economical will stimulate the sale of brick to a very great degree.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

Dutch Brick Man Visiting American Plants

P. R. Raelfsema, the son of a prominent sand-lime brick manufacturer in Holland, is a visitor to this country at the present time. He is visiting various brick plants in Illinois and will go to the west coast and then will return to Holland.

Changes Position

R. L. Cassidy, formerly superintendent of the Buckeye plant of the McLean Fire Brick Co., has assumed charge of the works of the Medina (Ohio) Tile Co. Mr. Cassidy tendered his resignation to the McLean company not long ago. At Medina he will be associated with several men who have invested their capital in a tile plant there.

Enterprising Clay Man Becomes Journalist

Considerable surprise was caused recently by the announcement that Walter S. Dickey, of the W. S. Dickey Clay Manufacturing Co., Pittsburg, Kas., has purchased the Kansas City Journal at receiver's sale. This newspaper is the oldest in Kansas City, Mo. Mr. Dickey is well-known thruout the industry and outside of it, and is generally acknowledged as being a leader in state politics. The purchase price of the paper was $111,000 and a mortgage of $100,000 was assumed.

Find Valuable Clay Deposits in Alabama

One of the highest grades of clay for the manufacture of brick and tile which has yet been found in that section has been located near Gadsden and Alabama City, Ala., about fifty miles east of Birmingham, and Texas capitalists have secured options on several thousand acres of these clay lands, it is reported.

The men behind this new industry have searched all over the South for the kind of clay they wanted and found it on the lands which they have recently acquired by option. They have been working quietly in the Gadsden section for some months, and it was only made public recently that they had found just what they were looking for in almost unlimited quantities.

It is stated that these parties will erect the biggest brick and tile works in the South, and that work will commence on the plants in the near future.

Uses Gravity Systems Thruout

Changes at the plant of the Daphne (Ala.) Manufacturing Co. are being made and the company is installing new and up-to-date machinery to take the place of hand and horse power. The plant is advantageously located so that the raw clay and the finished product can practically all be handled by gravity systems. The company gets its water from a spring high enough to furnish water under pressure anywhere it is desired without necessitating any pumping.

Hopes to Double 1920 Output

The Prescott (Ariz.) Brick Co. is making preparations to increase the output of its plant to 1,000,000 brick this season. Last year the company burned about half this amount, but expects the demand to be such in 1921 as to warrant the manufacture of twice the amount made in 1920.

Prospects Bright for California

With general business conditions in California at least normal the brick and clay products manufacturing industry in the Pacific coast state is entering what looks like a period of maximum activity and prosperity. Business men and chambers of commerce thruout the state are turning their attention to the rapid progress of the brick making and clay products industry with the greatest satisfaction. Local newspapers are devoting much publicity to the new ventures in this field especially in the southern part of the state and the brick men here are all extremely optimistic concerning the future.

Rumors are also extant in Los Angeles that a great manufacturing company will soon be organized there for the manufacture of clay products in the form of bath tubs and other supplies from clay to be taken from the large deposits at Alberhill in Riverside county.

Colorado to Investigate Its Clay Resources

Extensive investigations of the ceramic resources of Colorado will probably be made if the recommendation of the board of directors of the Civic and Commercial Association of Denver, urging the Colorado General Assembly to appropriate $5,000 for this purpose, is approved. The study is to embrace a review of the possibilities of the ceramic industry in the state and investigations will be made to determine the broad economic forces upon which the industry is built in Ohio with the purpose of finding a way in which these developments might be paralleled in Colorado.

Fire Does Considerable Damage

Buildings at the brick plant of R. O. Clark & Sons, at West Cromwell, near New Britain, Conn., were damaged to the extent of several thousand dollars in a recent fire. The fire started about four o'clock on the morning of March 25, apparently either from sparks from a passing locomotive or from the kilns. A fire truck sent from New Britain was delayed in reaching the works by the bad roads and the flames had gained considerable headway before it arrived. About 150 feet of storage shed, a freight car and a quantity of cord wood was burned. Telegraph poles supporting wires along the line of the Middletown-Berlin railroad branch also were burned allowing the wires to fall and resulting in some delay to early morning trains. The fire was discovered shortly after a freight train had passed the yard.

Delaware Men Organize Plant

The By-Products Brick & Engineering Co., Wilmington, Del., has been organized under state laws with a capital of

Men Forget—

The SCHAFFER Cannot

In the clay plant there is need of maintaining a definite, uniform tempering in the clay. Men may forget, but reliable machinery such as the Schaffer Poidometer, cannot. You depend on men to watch the tempering, and, as careful as they may try to be, they allow valuable material to be wasted.

STOP THIS WASTE. GET A SCHAFFER POIDOMETER—NOW.

Built scientifically in accordance with known physical laws. Entirely automatic. Can be adjusted to temper, mix and delivery from 1½ to 21,000 lbs. of material per minute; stays on the job every minute and does not forget to "turn 'er on" whenever the tempering even approaches non-uniformity. Prevents loss and affordsmore perfect ware.

Get a SCHAFFER POIDOMETER, and you can depend upon results.

The Schaffer Engineering & Equip. Company
Peoples Bank Bldg. Pittsburgh, Pa.

A Machine That SAVES—Time, Labor and Money

The day of real efficiency has returned. Every operation in your clay plant must be performed in minimum time at the lowest possible cost.

The Marion Rust Special shown below, will help you to speed up your plant, and cut the cost by giving a perfect uniform mix to your clay at all times as well as keeping the off-bearers continuously busy. The investment in this machine is not an added expense. It pays for itself and keeps on saving for you.

We Manufacture a Complete Line of Clay Plant Equipment. Write for Catalog.

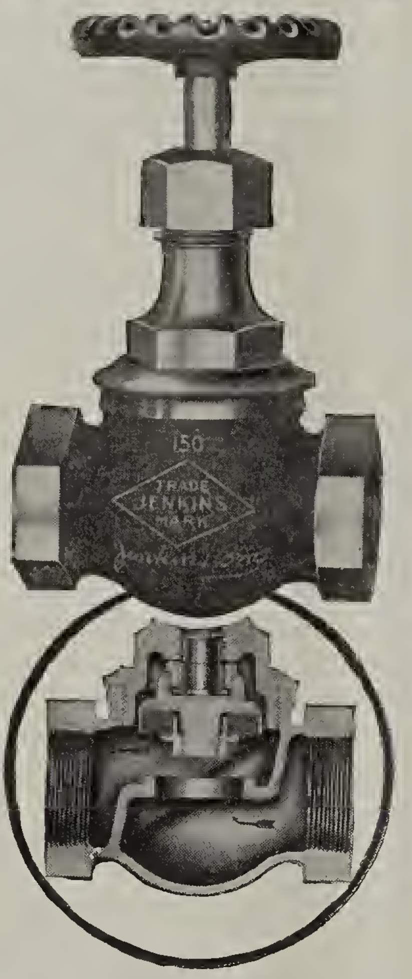
Marion Machine Foundry & Supply Co.
Box 395 Marion, Indiana

REG. U.S. PAT. OFF. TRADE JENKINS MARK

Jenkins Bros

Standard Brass Globe Valve

Fitted with Jenkins Renewable Composition Disc which takes up the wear and gives the valve practically unlimited life.
For 150 pounds working steam pressure, or 250 pounds working water pressure. (Extra Heavy patterns for higher pressures.)
Note free, full opening.
Merit tempts imitation—Jenkins Valves are made only by Jenkins Bros. and are stamped on the body with the name and Jenkins Diamond Mark—a valve without this identification is *not* a Jenkins.
At supply houses everywhere.



JENKINS BROS.
New York Philadelphia
St. Louis San Francisco
Chicago Pittsburgh
Boston Washington
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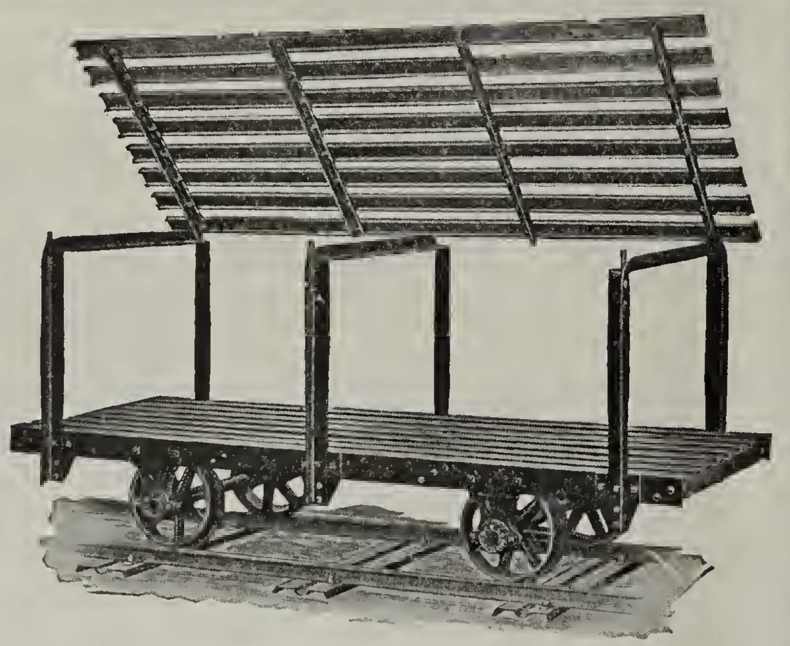
FACTORIES: Bridgeport, Conn.
Elizabeth, N. J.; Montreal, Canada

Jenkins Valves
SINCE 1864
2277-J



Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

R

FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

$150,000 to manufacture brick, burned clay building block and kindred specialties. The local incorporators are M. M. Lucey, M. B. Reese and V. P. Lacey, Wilmington.

Says Business Is Remarkably Good

W. J. Massee, president of the Bibb Brick Co., Macon, Ga., is very optimistic in regard to the situation in the brick industry. Mr. Massee said, "We find our business remarkably good, considering business conditions. We are looking forward for a general revival of business thruout the country. There must come great building activities because of the lack of homes and business blocks. When this time does come there will be one of the greatest booms this country has ever seen. We are anxious for 'good times' to come once again."

Face Brick Dealer Moves to New Quarters

Jos. Sullivan is quite proud of his new face brick display room, which has just been finished. The Wisconsin Lime and Cement Co. of Chicago, left its quarters in the Chamber of Commerce Building, on Thursday April 28, and moved to one block east, in the north east corner of the same block, in which its offices were formerly located. Almost half of the entire area of the fourth floor of the mammoth Conway Building is now occupied by the offices of the above concern.

The entrance which is designated as Room 437, leads right into the face brick display room, which is artistically arranged, and which will be described in a later issue of *Brick and Clay Record.*

Starts Producing

After a shut down lasting several weeks the Acme Brick Co. at Cayuga, Ind., has again opened its plant and started production.

Ft. Wayne Bricklayers Agree to Wage Cut

Officials of the Bricklayers' Union at Ft. Wayne, Ind., have announced that their members have voted to take a voluntary decrease in wages during the coming year. The reduction agreed on was fifteen cents an hour. The former scale was $1.25 an hour.

Brazil, Indiana, to Have Another Plant

The Standard Clay Co., Brazil, Ind., has been incorporated under Delaware laws with a capital of $300,000 to manufacture burned clay products. The company is headed by Albert F. Price and Edwin T. Norris, Brazil; and John H. Wright, Indianapolis, Ind.

Lock Out Obstinate Building Trades

New construction and remodeling in Indianapolis is virtually at a standstill because of the walkout two weeks ago of all the unions affiliated with the Building Trades Council at Indianapolis, Ind., with the exception of the bricklayers and hod-carriers. The latter two contracts did not expire until May 1. The contracts of the other building trades expired April 1, but they continued work for fifteen days pending the result of negotiations. When the two factions, the contractors and the labor leaders, could not get together, they left their jobs. The contractors here are firm in their fight for lower wages and say they will not do a thing all summer if the union leaders do not meet their demands for reductions of from ten to twenty per cent. in the various trades. The Marion

County Building Trades Council, at a meeting recently, gave the various unions permission to negotiate separate contracts and the contractors believe some of the trades will sign up within the next week. The entire difficulty, according to both sides, is the question of wages. The unions want an increase and the contractors a decrease. The question of the number of hours is said to have been settled. It is predicted that some settlement will be reached before building has been too seriously crippled for the summer.

Invents Revolving Clay Screen

Work is again the regular order of the day at the factory of the Roberts Clay Co., Brazil, Ind. Drain tile is again being made to fill the rush of Spring orders. During the period of idleness various improvements were made including the installation of a revolving screen, the invention of B. F. Roberts. It is said this screen is going to make a change in the industry. All plants in Brazil are said to have installed this type of screen and Mr. Roberts is manufacturing it in quantities and selling it in other states.

The Roberts Clay Co. is also installing machinery for the manufacture of hollow building tile and is calling the product "Roberts Bungalow Tile." These tile will be made in two sizes and the company has evolved a pattern which is said to make them particularly strong in addition to being frost and moisture proof.

Sewer Pipe Work Delayed

Sewer pipe consumption in Kentucky is being held in check somewhat by refusal of some of the counties to go ahead with street and road plans until prices are lowered, it being impossible to get the work going in several sections.

Louisville Clay Products Prices Decline

Brick manufacturers in Louisville, Ky., have made another cut in prices, the new quotations, f. o. b. cars, showing common brick at $17; face, $25; hollow tile, 50 off list. Delivered the prices are $20 on common; $30 on face; 40 off list on tile, These prices are subject to five per cent. discount if paid in fifteen days.

Refractories Company to Build New Plant

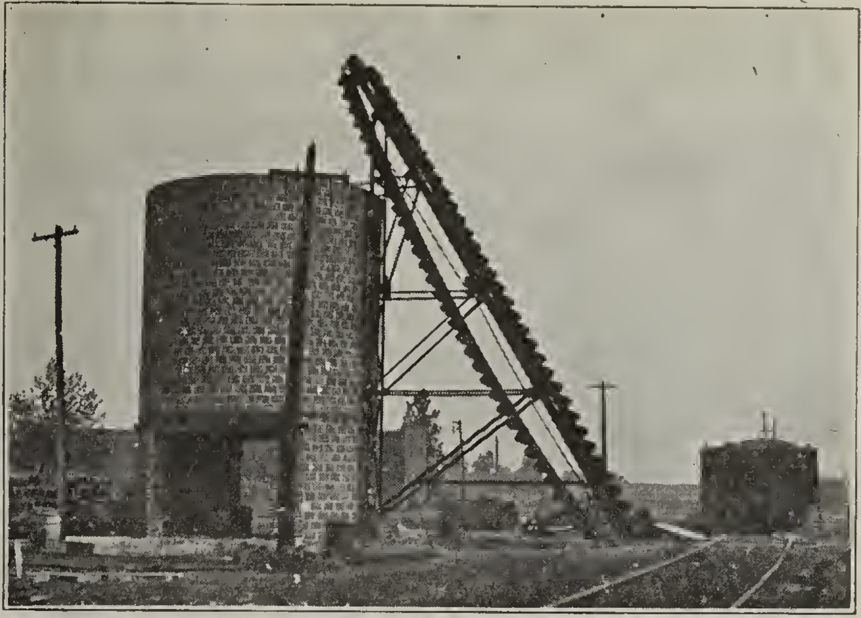
The Olive Hill Refractories Co., Ashland, Ky., recently organized, has plans under way for the erection of a new plant for the manufacture of fire brick and other refractory products. The initial plant will have a capacity of about 30,000 brick per day. John F. Hager is president, and J. William Stewart, treasurer.

Building Interests Trying to Reduce Costs

Several conferences are being held by the various manufacturers and handlers of building materials in Louisville, Ky., including general contractors, architects, building trades, and labor representatives, with the idea of trying to work out plans for reducing costs, and placing facts before the consumer in such a way as to show him what conditions are and what prospects may be for lower building costs later.

Want Brick Plant at Lincoln, Maine

Business men of Lincoln, Me., are considering the advisability of offering some inducement for the location of a brick manufacturing plant in or near the town. There are said to be several suitable sites. Several local concerns are said to be prepared to erect brick buildings if the materials could be ob-



55 Tons of Lump Coal Unloaded In 50 Minutes

That is what a Sunbury Automatic Car Unloader does in filling a coal bin for the Krick-Tyndall Co., Manufacturers of Tile and Blocks, Decatur, Ind.

Think what it means to unload a car of coal, this day of car shortages and labor scarcity, in approximately one hour. It's real ECONOMY as well as co-operation in solving the great railroad difficulties.

The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio

Gleckler's New System
for Up-Draft Kiln Users

Designed for the protection of the heads of kiln arches where stationary head walls are used. Is guaranteed to eliminate entirely all broken and melted brick in the arch heads and will produce A No. 1 brick from one end of the arch to the other.

It moderates the cold air that enters the arch while cleaning grates or firing and scatters the heavy flame which follows. It supplies the heads first and what is left is scattered towards the center. It prevents all the flame from striking the same little spot on the headers as it shoots into the arch. But instead of striking altogether on the first four feet it is completely knocked to pieces and spreads throughout the entire arch in the form of spray. Thus making it possible to hold the same white heat from end to end, or to shade down when occasion demands.

It requires no altering of arches or changing from the present system of burning. Just keep following in the same old rut. The worse the results have been the greater will be your improvement.

I sell you nothing except the idea and hereby make this as a contract that it will do all that is claimed of it and that you will be pleased with the investment, otherwise it costs you nothing.

The following from a well known authority shows what he thought of the idea on first consideration.

Your instructions, etc., received, and I wish to say that your idea is the most simple improvement in burning the Up Draft Kilns that ever was the fortune of brickmakers to possess. It is just as simple as the egg of Columbus that no one could make stand up until he showed them by setting the egg down hard and made an impression on one end so it stood up.

There is no doubt that it works fine, I can figure that out and wonder that nobody ever thought of it. The honor is certainly yours.

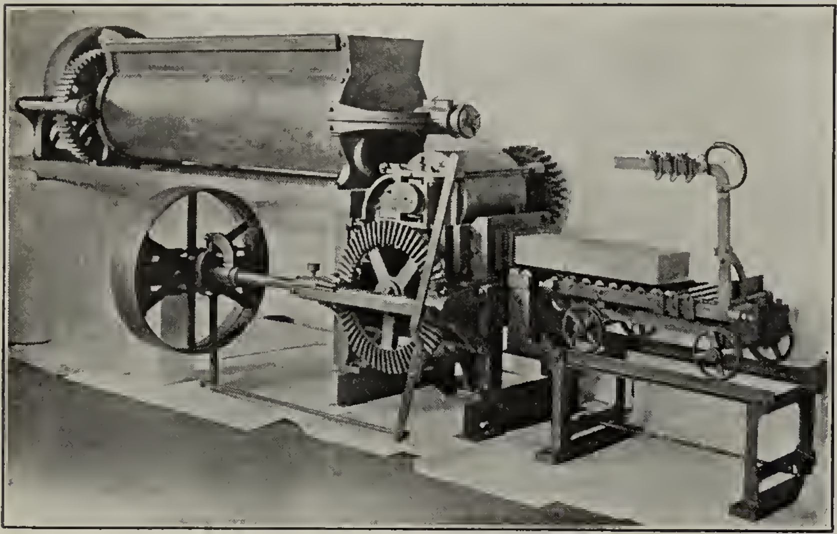
Thanking you for your prompt attention in my behalf and wishing you an overflowing measure of success.

April 13, 1921 ANTON VOGT.

Get the necessary knowledge now and be ready for a new start.

FRED GLECKLER
OAK HARBOR - - OHIO

THE MODERN WAY



A Unit for Surface Clays

Short Clays, Fire Clays and Laminating Clays

In fact will run any material

Unit Consists of Pugmill, Press and Cutter

For Brick, Hollow-Block, Floor-tile and Roofing-tile

Cutter Will Cut up to 18 Inches

YOUR TROUBLES ARE OUR PROBLEMS

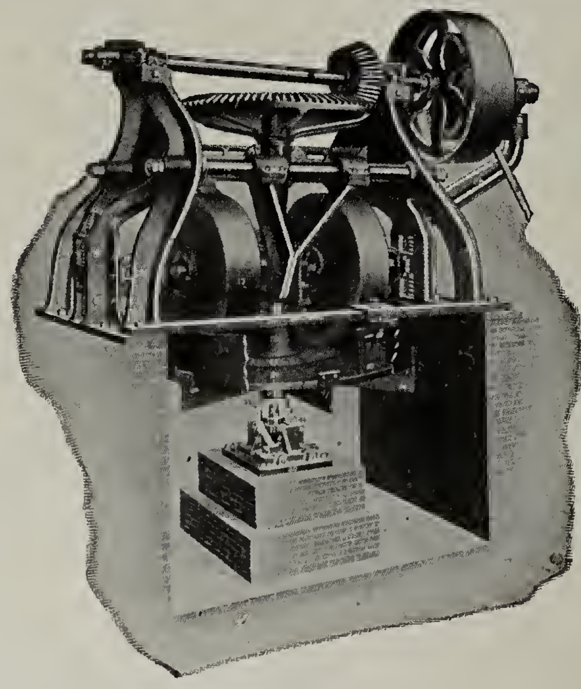
Write Us About Our Dryer

Continuous tunnel type without the use of expensive dryer cars, transfer cars and rails, better control over circulation, temperature and moisture. We make physical tests of your material.

"Everything for the Clayworker."

Claycraft Service Co.

503 Wainwright Bldg. St. Louis, Mo.



Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

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CHICAGO, ILLINOIS

tained nearby, while the Eastern Manufacturing Co., which has a large plant in Lincoln, has an addition under consideration. Lincoln, it is pointed out, also is centrally situated and shipments could be conveniently made to many surrounding communities.

Baltimore Brick Co. Keeps Officers

Stockholders of the Baltimore (Md.) Brick Co., at the annual meeting recently, re-elected all the directors of the company. The directors in turn re-elected the officers.

Builds General Storage Building

The Westport Paving Brick Co., Baltimore, Md., will erect a new one-story building at its property on Cherry Hill, to be 54x54 ft., and used for general storage service.

Secure Large Brick Contract

Contracts for materials for a new million-dollar schoolhouse to be erected by the City of Boston in the Fenway section of the Back Bay recently have been awarded. The East Bridgewater (Mass.) Brick Co. will furnish the common brick and the Parry Brick Co., of 77 Summer Street, Boston, the face brick.

Minnesota Plant Starts Work

Operations have been resumed at the plant of the Pengilly (Minn.) Brick Co., after having been closed for repairs. It is said that the concern has on hand at present a stock of 1,500,000 brick, but is not running on stock having secured contracts for the brick in four new buildings.

Cuts Brick in Half

A reduction of 50 per cent. in the price of brick was announced by the Missouri Pressed Brick & Improvement Co., of St. Louis, some time ago. Face brick were reduced to $12 per thousand and common are now selling for $10. H. C. Koenig, president of the company, announced that the employes had agreed to accept a 50 per cent. cut in wages. The cut in brick prices was made with a view to stimulate building.

Nebraska Company Operating

Production has begun at the plant of the Table Rock (Neb.) Brick & Material Co., with a strong force of men, a report states. The company is finding already market for its brick and preparations for a large output have been made.

Omaha Clay Products Reduced

Brick manufacturers at Omaha, Neb., announce a reduction in the price of face brick, common brick and hollow tile. Face brick is now selling for $40, common brick for $15.50 and hollow tile at $176. The reductions are said to be state wide.

Increases Scope of Activities

The Hanover Brick Co., Morristown, N. J., operating a brick plant at Whippany, a few miles distant, has been incorporated with a capital of $100,000. The company will continue the present plant and expects to develop new clay deposits in the vicinity of Malapardis, providing for haulage facilities from this point to the plant. The company is headed by Richard W. and Jesse L. McEwan, and Charles W. Ennis, 3 Elm Street. Mr. Ennis is head of the large building supply company at Morristown which bears his name.

New York Concern Incorporates for $300,000

The Greenport (N. Y.) Brick Corporation, has been organized with a capital of $300,000 to operate a brick manufacturing plant in that section. The company is headed by J. Briskman, 220 West Thirty-second Street, New York; S. Bitterman and E. R. Greenstein.

To Erect Two Buildings

The Robinson Clay Products Co., 949 Broadway, New York, manufacturer of sewer pipe, etc., will erect two new warehouse buildings, to be located at Albany and Syracuse, N. Y., respectively. The first noted will cost about $20,000, and the Syracuse building will be 50x104 ft., and is estimated to cost about $15,000.

Gets Orders for 800,000 Brick

Orders are coming in encouraging numbers for the Yadkin Brick Plant at Charlotte, N. C. This company has recently secured four orders requiring a combined total of over 800,000 brick. Two of the buildings are schools which would indicate a resumption of activity in the line of public buildings.

Two Hollow Tile Plants Resume Work

Following a shut-down of several months, the Whitaker-Greer Fireproofing Co., Waynesburg, near Canton, Ohio, has resumed operations at its local plant at full capacity. The company's plant at Magnolia, in the same district, has also been placed in service under full operations.

Open Service Bureau for Clayworkers

The Clay Workers Service Co., of Cleveland, Ohio, has been incorporated with a capital of $1,000 to operate a service bureau for clayworkers, especially in the brick and pottery ends of the business. The incorporators are C. A. Krueger, O. C. McCormick, A. B. Demarest, O. L. Jorgesen and A. O. Poyer.

Selling Common Brick at $10

According to advices received from Lima, Ohio, brick can now be purchased there for $10 per thousand. This is $4 to $5 cheaper than a year ago. Face brick which had been selling at from $30 to $50 can now be had for $28 to $40. When labor costs are revised it is expected that the cost of face brick will decline still more.

Cincinnati Gets New Sewer Pipe Company

The Armstrong Sewer Pipe Co., of Cincinnati, Ohio, has been chartered with a capital of $60,000 to manufacture and sell sewer pipe. The incorporators are A. C. Armstrong, Paul L. Wagner, Martin J. Smith, Charles T. Bliss and Ben Smith. The offices of the company are located at 701 Provident Bank Bldg.

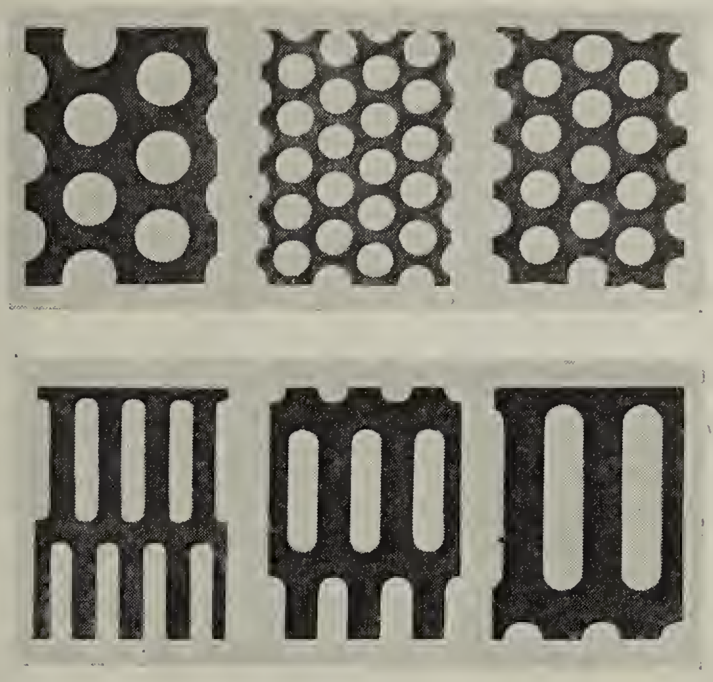
Wheels Once More Turning

The New Castle Mining and Clay Products Co., Youngstown, Ohio, resumed work at full-time recently. A recent order for 600,000 tapestry brick for the new Goodyear Heights school at Akron, Ohio, was booked by this company. The company has other good orders despite the general depression. The Niles Fire Brick plant also is resuming operations.

Zanesville Housing Co., Successful

A little over a year ago the Chamber of Commerce of Zanesville, Ohio, and bankers, merchants and manufacturers of the city, realizing the great need for homes, organized the

Perforated Steel Screens



For Screening Clay, Shale, Sand, Gravel, Stone and Cement

All sizes and shapes of holes in metal of proper thicknesses to give the best screening results.
Sheets furnished flat or rolled to shape for revolving screens.

The Harrington & King Perforating Co.
635 N. Union Ave., Chicago, Ill.
NEW YORK OFFICE: 114 Liberty St.

You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

The Roessler & Hasslacher Chemical Company

709-17 Sixth Ave. New York

Chicago, Ill. Cleveland, O. St. Louis, Mo.
ansas City, Mo. San Francisco, Calif. Philadelphia, Pa.
Boston, Mass. New Orleans, La.
Cincinnati, O.

Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife, Mary Anne, could never cook beans quite to suit his taste. As a matter of fact they were usually burned on top.

Mary Anne's stove suffered from about the same ailment as a great many Heat Treating Furnaces do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to heat radiation from many uninsulated surfaces.

Insulation with SIL-O-CEL of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Heat Treater's furnace would guarantee an even temperature in the oven. For the Heat Treater, this would not alone eliminate one of the most risky elements, but would also save fuel by preventing the escape of 60 to 70 per cent. of the unused heat which ordinarily radiates from the outer surfaces.

CELITE PRODUCTS COMPANY

NEW YORK, 11 BROADWAY
PHILADELPHIA, LIBERTY BLDG
PITTSBURGH, OLIVER BLDG
CLEVELAND, GUARDIAN BLDG
DETROIT, BOOK BUILDING
CHICAGO, MONADNOCK BLDG
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LOS ANGELES, VAN NUYS BLDG
SAN FRANCISCO, MONADNOCK BLDG

If you are interested in getting more data on how insulation with SIL-O-CEL will increase the efficiency of your heat treating equipment we will be glad to send you a copy of our Bulletin V-5A.

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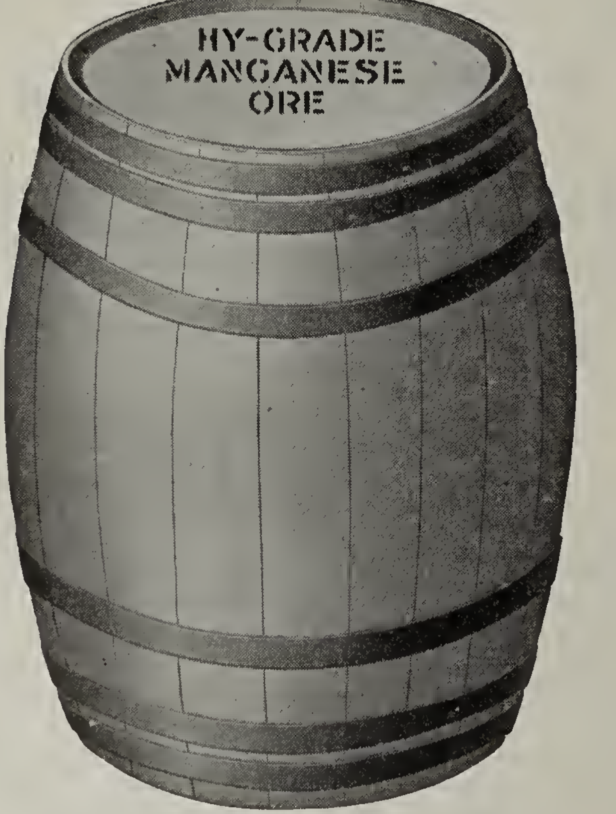
PREVENTS HEAT PENETRATION
TRADE MARK REGISTERED U.S. PATENT OFFICE



HY-GRADE MANGANESE CO.
WOODSTOCK, VA.

Miners
and
Grinders

Especially Prepared
for Brick Making

Sales Office: CHARLESTON, W. VA.

Zanesville Housing Co. This company was organized, not for profit, but to relieve the housing shortage. With the assistance of building and loan companies, fifty-one modern houses were built and were ready for occupancy December 1, 1920. These efforts have gone a long way to supply the demand for homes and are a good indication of what can be done by concerted effort.

Can't Make Delivery on Orders

Manufacturers of paving block in the Hocking Valley section of Ohio report a good number of orders booked, but that shipments are being held up thru one cause or another. One of the most potent causes for the delay is the fact that some municipalities are having a difficult time in selling bonds for street work, because of the bad condition of the bond market. Consequently a number of projects are being held up.

May Abolish State Brick Plant

A bill has been introduced in the Ohio General Assembly which, if enacted into a law, will abolish the state-owned brick plant at Junction City, O., which has been functioning for some time, making pavement block. The bill is sponsored by Representative Gorrell of Carroll County, and provides that no prison-made brick shall be used on any public highway without consent of the commissioners of the county or counties thru which the road passes. The Ohio Board of Administration will ask that the bill be defeated.

Will Begin Work May 2

The plant of the brick department of the Hocking Valley Products Co., of Columbus, Ohio, located at Greendale, Ohio, will be put into operation May 2 after an idleness of several months. During the idleness all necessary repairs were made and the conveying machinery was renewed. It is planned to manufacture rug textured and mat textured face brick. John Baker, sales manager for the brick department, reports quite a brighter outlook in the face brick business and believes that things will come along nicely from this time on.

Building Will Begin If Labor Comes Down

Building operations for March in Columbus, which were more numerous in point of permits, still show a falling off as far as the valuation of buildings is concerned. This condition is expected to prevail for some time unless there is a substantial reduction in labor scales. The bricklayers' scale in Columbus calls for $1.25 per hour and the carpenters' scale ninety cents. Other wages are correspondingly high. May 1, the date of the expiration of wage contracts, is being looked forward to with more than ordinary interest because of the contests which will likely come up at that time.

Predict Plenty of Money for Home Building

Experts who attended the National Subdividers' Conference in Columbus, Ohio, early in April, were unanimous in the opinion that home building is beginning to assume its normal place in the minds of the people in practically every section of the country. The conference was called among real estate men and builders to secure data from all sections from coast to coast.

J. M. Demcrest, of New York, reported a surplus of funds in the mortgage companies for building purposes. One belief was expressed that the shortage of funds for home building would soon be relieved in all sections of the Middle West at least.

Close Plant to Put in New Equipment

The plant of the Continental Clay Co., at Warmington near Massillon, Ohio, which manufactures rough textured face and common brick has been shut down for the installation of new boilers, the building of a clay crusher, installation of mechanical stokers and the building of a new stack. This plant was closed about April 10 and it is expected to have it ready for operation by May 1 or soon after. When the improvements and repairs are made the capacity of the plant will be 50,000 brick daily. The other three manufacturing plants are in full operation. Plant No. 1 at East Greenville, Ohio, making hollow tile is having capacity production as has the other plant at East Greenville, known as Plant No. 2. Plant No. 3 at Salineville, Ohio, is making glazed hollow building tile 8x8x16.

Wages Must be Lowered

Practically all of the face brick plants located in the Hocking Valley region of Ohio are endeavoring to secure reductions in the wage scales. Several weeks ago a meeting of the workers was called when a proposition for a fifteen per cent. reduction in the wages of all of the employes was made. This proposal was taken under advisement and so far has not been acceded to. In the meantime the workers named a committee to ascertain if face brick was being sold at a lower price than formerly. Brick companies in that section are now selling face brick, manufactured under high costs at less than the cost of manufacture. This is not general but there are instances of that and the price of face brick on the average has been reduced from $2 to $5 per thousand on all kinds. Manufacturers are united in saying that they cannot afford to continue operations under present conditions and a reduction in the wage scale is absolutely necessary.

Cleveland Construction May be Paralyzed

Every indication was for a general walkout of building trades operatives in Cleveland, Ohio, involving 35,000 men, following the strike of carpenters April 25 when their wages were reduced from $1.25 to ninety cents by contractors. Contractors were disposed to see the city officials taking sides with organized labor when the mayor issued an order to contractors on public work to continue paying the $1.25 rate. Meanwhile work was gradually being suspended upon the $25,000,000 construction program in the city where the carpenters walked out. About 3,000 carpenters were involved in the strike against lowered wages.

Efforts of the Building Trades Employers' Association to arbitrate the differences were refused by representatives of the Building Trades Council, parent labor body. Union heads were certain there would be a general walkout May 2.

Oklahoma Paving Brick Rates Reduced

The Oklahoma Clay Products Association has just recently secured a reduction of thirty-five per cent. in freight rates on paving brick shipped between points in Oklahoma. The reductions apply only to brick for use on federal, state, country, township or municipal paving projects. The Association contended that Kansas manufacturers could at the old rate crowd out competition from Oklahoma manufacturers.

Opens Plant After Four Months of Idleness

May 1 marked the resumption of work at the plant of the Ridgway (Pa.) Brick Co., which has been shut down for four months. Real estate men of that town claim that there is a need for fifty more houses.

Fallston Fire Clay Co. Starts

Increased demand for its product has caused the Fallston Fire Clay Co., at Beaver, Pa., to open its plant and begin

EFFICIENT
DURABLE
ECONOMICAL

"FROST" Pans stand for all that is best in Clay Crushing and Mixing Machinery.

Write for descriptive booklet giving full details of our products

The Frost Mfg. Company
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THE KILN OF SURE CONTROL
AMERICAN
DRESSLER
TUNNEL KILN

PENNY WISE AND POUND FOOLISH

is the man who continues
to pay more to

BURN BAD PRODUCT

than to

BURN GOOD PRODUCT

American Dressler Tunnel Kilns, Inc.
1740 East 12th Street,
Cleveland, Ohio

ATTENTION:

You too, can save money as does the Dominion Sewer Pipe and Clay Industries Ltd. of Canada.

The above named company have written Brick & Clay Record as follows:

"Replying to your inquiry, we are unloading coal with our Godfrey Conveyor at from five to six cents per ton. You will recall that we carry the coal over a building thirty feet high and place it quite close to our kilns; formerly it was thrown off by the railway track and had to be drawn up hill, everything considered we are saving at least thirty cents per ton."

Godfrey representatives in your territory will be glad to make estimates and recommendations without any obligation to you whatever. Just tell the Godfrey Conveyor Co. when and where.

ADDRESS THEM:

Godfrey Conveyor Co.

102-122 13th St., Elkhart, Indiana

New York Branch:
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223 W. Erie St.

ORDER NOW—

YOUR COPY OF

The Clay Products Industries' Encyclopedia and Buyer's Guide

It will contain a wealth of information on practically every conceivable subject of interest and value to manufacturers of clay products. Did you ever want to know about some machinery, method, kiln, clay, glaze or a dozen other subjects, and not know where to lay your hands on the information quickly?

This Encyclopedia will cover these points and more. But the edition will be limited to 5,000, and it is well to order early to make sure of your copy. Price is $3.00, payable upon receipt of invoice after the book is published, about September 1.

INDUSTRIAL PUBLICATIONS, Inc.
610 Federal Street CHICAGO, ILL.

Order early and be sure of your copy.

production. The company employs about 125 men and manufactures brick exclusively.

Clay Mines Under State Department

The State Legislature, Pennsylvania, is considering a bill, introduced by Senator Christy, Butler, placing all clay mines in the state, as well as ore and graphite mines, under the direction of the State Department of Mines. Stone, slate, marble and granite quarries will also come under the same classification.

Will Try Hand at Making Clay Products

Application will be made on May 9 by John Schlarman, Joseph C. Gartner and W. J. Wilson for a charter for a concern to be known as the Northside Brick Co., of Pittsburgh, Pa., whose object it is to manufacture brick, tile, concrete, cement and to quarry stone.

Large Pennsylvania Brick Plant Resumes

The Glen-Gery Shale Brick Co., Reading, Pa., has resumed operations at its brick plant at Shoemakersville, Pa. The plant will give employment to about 50 operatives. During the period of curtailment, a number of improvements have been made at the yard, including repairs to machinery, etc.

Clay Products Companies Doing Better

A continued improvement in the brick, clay and affiliated industries has been noted in the Pittsburgh, Pa., district during the last two weeks and dealers are hopeful that the long expected break in the market has arrived. Prices continue to show improvement, tho no spectacular raises are being encountered in the trade. Many plants which were closed down during the beginning of the reconstruction period are reopening again and orders are beginning to flow in at an increasing pace.

Will Build Homes for Employes

The building situation continues to be the center of interest in Pittsburgh, Pa., because of the thousands who will be seeking homes May 1. The acute house shortage here is expected to be relieved somewhat by the action of fifty corporations at a recent meeting with the housing committee of the Chamber of Commerce at which plans were outlined by the corporations to build 2,000 homes to be occupied by their employes. The plans are not very far advanced but it is expected that building operations will be begun shortly.

Good Orders for Brick Expected

In discussing the trade outlook, James M. Crowell, manager of the Philadelphia, Pa., office of the Hydraulic-Press Brick Co., says that a fairly good volume of orders for material is expected during the coming spring and summer months. Business since last fall, dating about September, it is said, has been approximately ten per cent. of normal in this section. Present prices are expected to hold for some time to come, altho if the demand for material ensues to any extent it is likely that quotations will advance.

Brick Men Succeed in Lowering Rates

A signal victory in the fight against the increased freight rates on brick was won by the brick manufacturers of South Carolina. As a result of the protest lodged before the South Carolina commission the railroads have agreed to submit a revised schedule of rates. The new schedule will be submitted May 5 and if not satisfactory to the brick men will be referred to the commission and in that event another hearing for the purpose of discussing the rates will be held.

Work Starts at Tennessee Plant

Work has begun at the plant of the Johnson City (Tenn.) Shale Brick Corporation. The company has installed improved, modern machinery and will turn out a high grade product.

Correcting an Error

An item appearing in the April 19 issue of *Brick and Clay Record* incorrectly stated that the Thurber Brick Co. of Mineral Wells, Tex., had begun operations. The Mineral Wells Paving Brick Co. was the concern under consideration. This company is in no way connected with the Thurber Brick Co. Production has started with eight round kilns and by June 1 it is expected to have sixteen under fire.

Plants Show Encouraging Activity

Business for the brick plants in Chattanooga, Tenn., is picking up considerably and several of the local plants have begun work. The Key-James Brick Co. has been operating continuously and will continue to operate at capacity for an indefinite length of time. Orders are now coming in in sufficient volume to keep the machines running. The J. W. Wells Brick Co. reports prospects for continued operations are very bright and tho the company began work on a part-time basis business is now such that capacity output is kept up. The Cutico Brick Co. has begun, with orders for several weeks ahead and coming in at a rate which will insure capacity production until fall.

Begin Operations at Utah Plant

Operations have begun at the plant of the Ogden (Utah) Pressed Brick & Tile Co., it has been announced. The company will operate on a part-time basis, sufficient to take care of the orders coming in. Demand for both facing brick and hollow building tile has increased appreciably.

Begins Season's Run

Encouraging news of the resumption of building activity in the West is heard from the Provo (Utah) Brick & Tile Co. This company has recently begun operations to fill orders on hand to furnish brick for several public buildings and also residences. The erection of additional kilns has been begun and a dryer 75x90 feet will also be built.

The Provo Brick & Tile Co. has been incorporated since October, 1920, and has taken over the interests of what was formerly the Provo Pressed Brick Co. The new company is capitalized at $50,000 and will operate on a profit-sharing basis which will give the employes practically 50 per cent. of the profits after making allowance of 8 per cent. on the capital invested.

Officers of the company are: S. H. Belmont, president and manager; Jesse Curtis, vice-president; T. H. Heal, secretary and treasurer. Other directors are Mary E. Belmont and Frank Dyson.

W. J. Ready Brick Company Formed

The W. J. Ready Brick Co., Richmond, Va., has been organized with a capital of $50,000 to operate a local brick manufacturing plant. W. J. Ready is president, and W. J. Crump, secretary.

Reduces Price of Commons $2

Announcement was made recently by the J. T. Davis Brick Co., Spokane, Wash., that a reduction of $2 per thousand in the price of common brick would be made, effective at once. The new price for commons is $17.50 in Spokane.

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INSURES SERVICE

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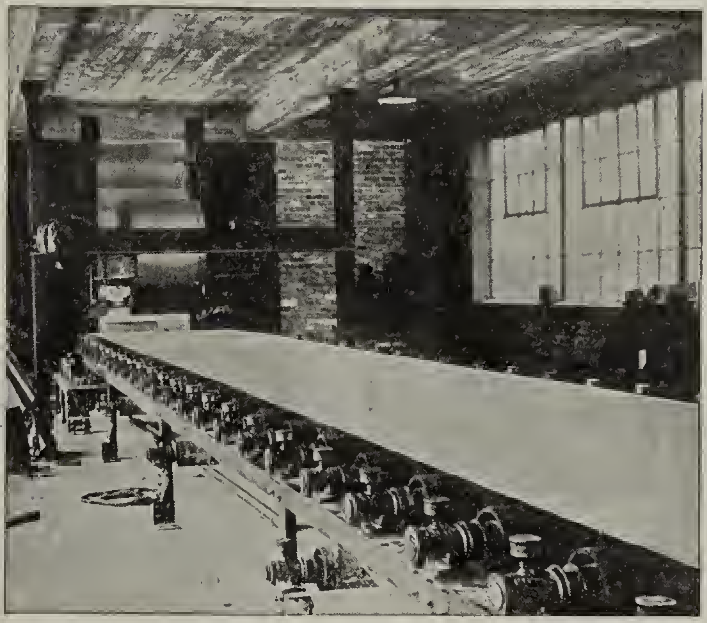
Handling the loose materials and finished products will enable you to increase the output and greatly reduce your operating expenses.

Equipment built to meet your requirements.



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Think of the Money Saved

if all the kilns in the above photograph were covered, crowns and sides, with

SEALRITE

In the clay industry the coal consumed is a big item. Every ton saved, while at a same time maintaining the proper temperature in the kiln, is clear profit.

Don't you want to begin saving NOW?

Then cover your kiln crowns, and sides, with SEALRITE.

SEALRITE is easily applied by any man who can use a plasterer's trowel. When applied it is of a rubbery consistency. It fills the cracks in the mortar and enters into the pores of the brick, forming a clinging covering on the kiln that remains elastic within while hardening on the outside.

SEALRITE yields to contraction and expansion due to variation in heat and changing weather conditions, but will not crack or peel.

Use SEALRITE on one kiln. Watch reports from that particular kiln—the fuel consumed, the results obtained. Then you will order more SEALRITE.

Bulletin C23 will tell you about the Kingsbury Products.

KINGSBVRY CORPORATION 1519 KINGSBVRY ST. CHICAGO ILL.

"The company has on hand approximately 1,000,000 brick made in 1920 and will stand a loss in quoting the present prices in order that building may be stimulated," stated J. E. Shields, president of the Consolidated Supply Co., agents for the J. T. Davis Co.

Will Rebuild Plant Destroyed by Fire

The plant of the Barboursville (W. Va.) Clay Mfg. Co., was destroyed by fire on April 13. It is reported that the plant will be rebuilt at an early date.

* * *

The Toronto Brick Co. has purchased the Brandon brick plant at Milton, Ont., and has started operations in it.

* * *

Enderby Brick Co., Ltd., Enderby, B. C., has been incorporated with a capital of $30,000 to operate yards and factories for the manufacture of brick and tile.

Brick Plants Not to Come Under Smoke Law

An amendment to the smoke law has been introduced into the Ontario Legislature to exempt the brick and tile plants of Toronto from the ordinance.

* * *

Ceramic Products, Ltd., London Bldg., Vancouver, B. C., recently incorporated with a capital of $100,000, are empowered to manufacture and deal in brick.

Will Organize Company as Result of Tests

Samples of shale from Lumsden, Sask., were made into pressed brick, wire cut brick and hollow tile at the plant of the Hadfield-Penfield Steel Co. at Bucyrus, Ohio. The results were satisfactory. A company with a capital of $250,000 will be organized to erect a plant. The deposit covers sixty acres and is forty feet deep. Water is available. The property is on the C. N. R.

Form Brick Promotion Association

The brick manufacturers in the vicinity of Toronto have met and formed the "Build with Brick Association." Meetings will be held the first and third Tuesdays of each month. The following are the officers: President, Frank E. Waterman, Toronto Brick Co., Ltd.: vice-president, A. U. Cote, Shale Brick Co. of Canada, Ltd.; treasurer, Thos. W. Logan, Logan Brick Works; secretary, R. Cumming, Price & Cumming, Ltd. Directors, J. M. Bowman, J. S. McCannell, Geo. Price and G. W. Booth.

Says Building Situation will Improve

John M. Bowman, general manager of the Don Valley Brick Works, Ltd., Toronto, says there is some improvement in the building industry. "People seem to be waiting for cheaper prices but I fail to see how prices can be reduced much lower," said Mr. Bowman. "There never was a time in the history of the industry when so much building was being held up. However, we are busy and the indications point to an improvement in business."

Mr. Bowman doubted if there was much likelihood of a reduction in wages. He expressed the opinion that wages of building trades workers must remain close to the present figures because of the shortage of mechanics. "Eight or ten years ago the bricklayer or carpenter apprenticed his son to a contractor," said Mr. Bowman. "This is not the case today. There are no apprentices in the industry. Young men whose fathers are bricklayers or carpenters are going into some other line of endeavor."

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SERVICE
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Stop Big Leaks, Too

You very properly insulate your steam lines and boiler drums to save heat. Yet out there in the yard are your kilns, with seven or eight times as high a temperature, exposed to rain, wind, and all kinds of weather, leaking more heat in one burn than all your steam lines will lose in a year.

Nonpareil Insulating Brick

For Kiln Walls and Crowns

will do for your kilns what pipe covering does for your steam lines. By saving, as they do, 60% to 75% of the heat lost by conduction and radiation from walls and crowns as ordinarily constructed, Nonpareil Brick effect an important saving in fuel. For instance, the radiation loss from the average kiln is 20% to 25% of the total heat. Taking the lowest values, saving 60% of a 20% loss means 12% less fuel consumed for the same output—enough to pay for the insulation in a year or less. And Nonpareil Brick will last as long as the kiln.

Interested as you are in reducing the cost of burning, you will want the 72-page book, "Nonpareil Insulating Brick," which explains in detail the advantages of kiln insulation. A copy and a sample brick will be sent you promptly on request. No charge.

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Also manufacturers of Nonpareil High Pressure Covering for steam lines, feed water heaters, etc.; Nonpareil Cork Covering for drinking water systems, brine and ammonia lines and cold pipes and tanks generally; Nonpareil Corkboard Insulation for cold storage and constant temperature rooms; Nonpareil Cork Machinery Isolation for noisy machines, and Linotile and Armstrong's Cork Tile for floors in offices, residences, etc.

The BUILDING SITUATION *in the* EAST

FOLLOWING the gradual resumption of trade in other lines, the building industry in the East is taking on an aspect of real accomplishments in the months to come. The advent of spring has produced positive evidence that builders and prospective builders are going ahead with contemplated work, and present weeks are being given to estimating on jobs and making ready for construction.

The past fortnight has brought about easement in the labor situation and many of the agitations in this direction are subsiding. With a settlement of the major labor troubles, there is bound to come an added impetus in the line of new construction developments, for every owner and contractor wants to know that work will proceed without difficulties. The "open shop" is growing more and more popular in the eastern sections, and a number of employers' associations have now adopted this plan of operation.

The price situation presents the point of hesitancy in the mind of many a prospective builder, and the lack of real stability in levels of certain basic commodities is a hindrance that must be overcome by the building material manufacturer and dealer. The trend of prices is downward, of that there can be no question, but just when the bottom will be reached is a matter of great uncertainty. It is the wise builder that is going ahead with his work these days, for a further recession in prices is likely to bring a demand for materials that cannot be handled with dispatch, nor give assurance as to time of deliveries.

SITUATION IN NEW ENGLAND

A brief review of the situation in the eastern districts follows: New England: The building strike at Boston has been settled, at least so far as the employers are concerned, and operations have been resumed on an open shop basis, with a wage scale of ninety cents an hour. The Building Trades Employers' Association has abandoned all negotiations with the Building Trades Council, and at least for the remainder of the year, the employers will not make any agreement with the unions. The striking workmen have been offered jobs, with a guarantee of protection against penalties by the labor unions in returning to work. Since this decision of the employers' association, a large number of men have gone back to their jobs and active construction can now be said to have been resumed.

OPEN SHOP BECOMING GENERAL

Like setting a spark to kindle a flame, other New England cities in controversy with labor in the building industry, have followed the lead of Boston, and open shop conditions are growing more and more popular. The Master Builders' Association at Lawrence, Mass., has voted to operate on this basis, with a wage scale of eighty-five cents an hour. The Building Employers' Association of Holyoke has arranged for open shop operations, with a wage schedule of ninety cents an hour or less for bricklayers, masons and plasterers, and eighty cents an hour or less for general building mechanics. The strike at Worcester seems slated for early settlement with an agreement between the Building Trades Employers' Association and the local Building Trades Council, while the controversy at Mystic, Conn., has been settled by arbitration, with an agreement at ninety cents an hour between the employers and the men. Other cities show evidence of early settlement of prevailing difficulties in this direction, and the turn of May is likely to find the majority of New England mechanics back on the job.

OPERATIONS INCREASE

There is a noticeable increase in building operations in the New England districts from week to week. While the bulk of construction is of residence character, with numerous projects of repair and alteration nature, new projects are coming to light, and the textile industry bids fair to assume an important position in building statistics within the next few months.

Work of this latter character is calling for brick in sizable quantities, as well as other important burned clay building materials, and manufacturers and dealers are viewing the outlook with a degree of satisfaction. With the present aspect, it is likely that many of the Connecticut brick yards will start up a little earlier than anticipated.

The building material market remains firm in the Boston section, and there is no immediate indication of any important change. New York brick is selling at $24 delivered on the job, while Connecticut production is being turned by dealers at $27. Terra cotta partition blocks, 4x12 in., are priced at $200 per thousand sq. ft., and 8x12 in. material at $380. Face brick continues at $50 and $60 per thousand, the latter figure being asked for ruff texture varieties. Standard sewer pipe is thirty per cent. off list, delivered, and double strength material, fifteen per cent. Fire brick is growing in demand, and holds at $80 and $90 a thousand, delivered.

LITTLE VARIATIONS IN MATERIAL PRICES

At Providence, R. I., common brick is quoted at from $32 to $35 a thousand delivered, while standard fire brick has a variation from $90 to $110 a thousand. Partition tile, 4x12 in., is priced at $250 per thousand, and 8x12x12 in., at $450, delivered. Drain tile is twelve cents per ft. for three in. material, and sixteen cents for four in. Fire clay is selling retail at $1.75 a bag.

New York: Encouraging prospects in construction continue at New York, with house building easily the main feature. Each week is developing a larger amount of new construction, with the amount of projects involved growing to bigger figures. The residential work is taking the form of new apartments, and one and two-family structures. Speculative money is becoming more available, and this is developing some large apartment house projects in the residential sections.

There is a noticeable increase in building operations in the Long Island districts, and many predict a real boom in this line before the season is very far advanced. It is estimated that close to 1,000,000 commuters are now living in the Long Island section, and there is a keen demand for homes. In the Westchester County territory, there is also considerable activity in the house construction line.

NEW YORK BRICK REDUCED

The downward trend of the New York brick market, mentioned in the last issue of *Brick and Clay Record*, has continued during the past fortnight, with apparent lack of stability in prices. The present quotations are $14 and $15 a thousand, with the bulk of distribution made at the latter figure. There has been an active call for material, particularly from the Brooklyn and Long Island districts, and

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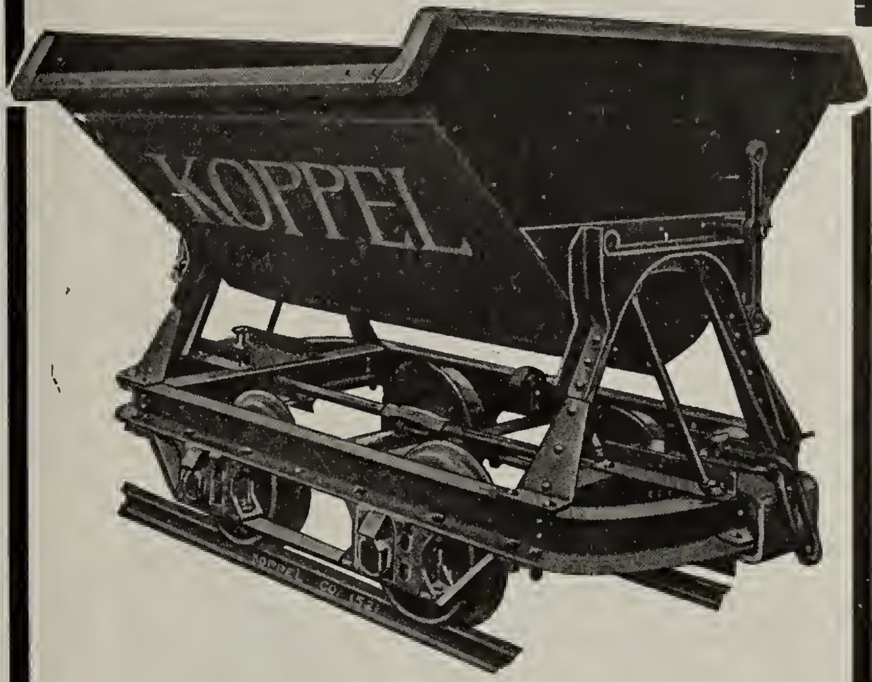

KOPPEL "V" shape cars have become very popular with Brick men on account of their ease in handling and their quick, positive discharge.

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available stocks at the New York docks have been absorbed quite rapidly. Dealers are asking from $4 to $5 in excess of these figures for the material on the job.

A threatened strike of barge captains, due to the manufacturers' intentions to reduce wages, is likely to cause a stiffening in prices, as in such event considerably reduced shipments will come into the local market, and available stocks are now running only about ten to twelve barge loads at the wholesale docks.

The seasonal yards in the Hudson River section of New York are not showing any great keenness in starting up. The drop in brick prices in the New York market is a factor that has gone to retard production, for with the uncertainties in this line, producers are not sure of results by any means and labor has not declined to a point that assures any extensive margin of profit with $14 and $15 brick. A number of the all-year plants are in active production and making good sized shipments to New York.

BUILDING MATERIAL PRICES HOLD STEADY

Burned clay products in the New York market hold well at recently established levels. Interior partition tile varies from $180 to $280 per thousand sq. ft., the first noted figure being for 2x12x12 in. material, and the latter for 6x12x12 in. stock. Face brick ranges from $45 per thousand upwards to about $55 and $60, the last price being for selected ruff textured stock; grays and buffs are in demand. Fire brick is quoted by dealers at $75 and $80 a thousand, and is now operating under a fair call. Fire clay is selling at about $15 a ton, delivered. Other products, such as sewer pipe, drain tile, wall coping, etc., hold well at present figures, with reduced demand.

The wave of the open shop has reached Buffalo, N. Y., and operations under these conditions are now threatened in the bricklaying trade. Several local buildings are now being handled in this way, and the movement, undoubtedly, will spread. Union men have been receiving $1.12½ an hour, with arbitration on a demand of $1.25 now pending. Contractors working under the open shop plan are offering $1 an hour to bricklayers, while owners of buildings in course of erection are offering cooperation in securing men, in certain instances, by giving a bonus of 12½ cents an hour, to bring the wages up to the established level.

APARTMENT AND HOUSE BUILDING LEADING

New Jersey—Building work is attaining a more encouraging point in Northern New Jersey, particularly in the vicinity of Newark, with apartment and house construction taking the lead in volume and value of operations. Burned clay products are in fairly good call for work of this character. Industrial work at Newark continues at a slow pace, and the forthcoming building season seems destined to be a very lean one in this line. Taking the first quarter of the present year, the valuation of work of this character has run to $91,850, as against $2,061,900 in the same period of 1920, or a difference of $1,970,050.

While construction is picking up at Trenton, it is rather slow work, and operations in the city proper are open to considerable increase. Building permits for the month of March averaged over $450,000, and the month of April is expected to show close to a like amount. Brick is being used locally in good quantities for house construction, as well as for certain factory work now under way.

The labor situation may be stated as quiet in the different parts of New Jersey at the present time. The Master Builders' Association at Atlantic City has entered into an agreement with bricklayers and plasterers for a continuance of the present wage scale of $1 an hour, or $8 a day for the coming year.

Building material prices continue at rather an even status in the different important cities of New Jersey. Common brick at Newark has sagged to the $21 level, with some dealers asking $22. New Jersey production is securable at the first noted price. The Trenton district has recorded a similar decline in price, and delivered material is now around the $22 and $23 level. Face brick is holding at from $42 to $60 a thousand, delivered, depending upon the selection, while fire brick is being sold at $75 and $80, with an $85 price prevailing in some quarters for best production.

In discussing the recent decline in the prices of hollow tile, Tomkins Brothers, large mason material dealers at Newark, say that this is one of the commodities getting down to a point where there is no doubt but that manufacturers are doing everything to resume near-normal conditions and price levels. Hollow tile prices have been reduced a greater percentage than any other burned clay products, and the increasing demand for the material can be attributed to the falling market. Great interest is being shown at the present time for the use of hollow tile in private residence construction. This attention has been caused in many instances by the promotion and educational work of the Hollow Building Tile Association.

HACKENSACK DISTRICT READY TO START

The Hackensack, N. J., seasonal yards are rather slow to start up for the 1921 run, and the only plant which has commenced is that of I. E. Gardner. Other yards are expected to follow shortly after the first of May. Prevailing prices at the kiln are $18 and $19 with about a dollar added for delivery for short haul. The demand is rather slow at the present time, but with rather encouraging outlook for early revival.

Philadelphia—There has been no change in the local building situation during the past fortnight. With increased operations in the realty line, covering the sale and transfer of properties, there is every appearance of growing building work during the coming spring months. Builders and architects report a greater volume of work out for estimates, and it is likely that some sizable contracts will be placed at an early date. All factors of the industry are seeking to boom dwelling construction in the city, and the results of some of this work are now evidenced in a large percentage of brick house construction in the residential sections.

TRADE ORGANIZATIONS COMBINE

The Master Builders' Exchange and the Building Trades Employers' Association, Philadelphia, have combined forces to operate as one large organization. It is expected to have the merged interests operate under the name of the last noted organization. There are a number of industrial problems now confronting the industry in this section, and the new organization proposes to enter actively into this work for a solution of the troubles. A committee of five has been appointed to act on the wage question. New officers will be elected at an early date.

Following the recent reduction of the price of common brick from $25 to $20 a thousand at Philadelphia, the tone in material prices has been one of defined stability, and present levels, particularly in the line of burned clay products are being well maintained. Partition tile is selling around the $180 level and upwards, according to size. Face brick ranges from $45 to $50 for the popular selections, and fire brick is holding at a $75 figure. Burned clay specialties, such as wall coping, drain tile, etc., are in rather slow call at the moment. Fire clay is holding at a $20 a ton price, delivered.

The doubt to be expressed for lower construction costs at Philadelphia, is shown in the fact that realty values after declining about ten per cent. from war-time levels, are now well-established at this point.

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Tile Your Farm, 100 copies	5.00

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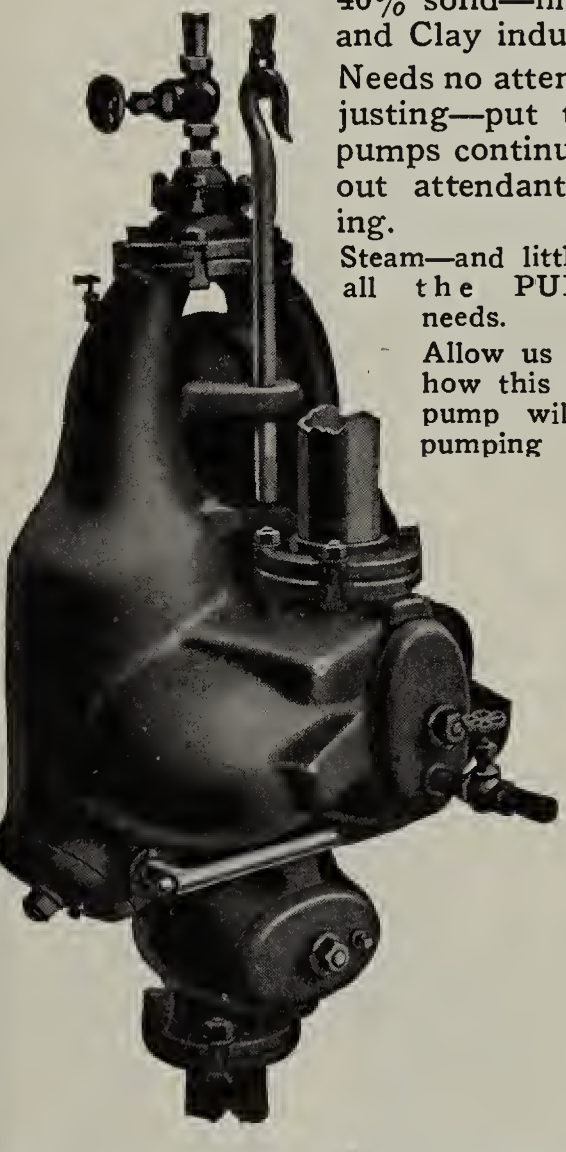

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Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

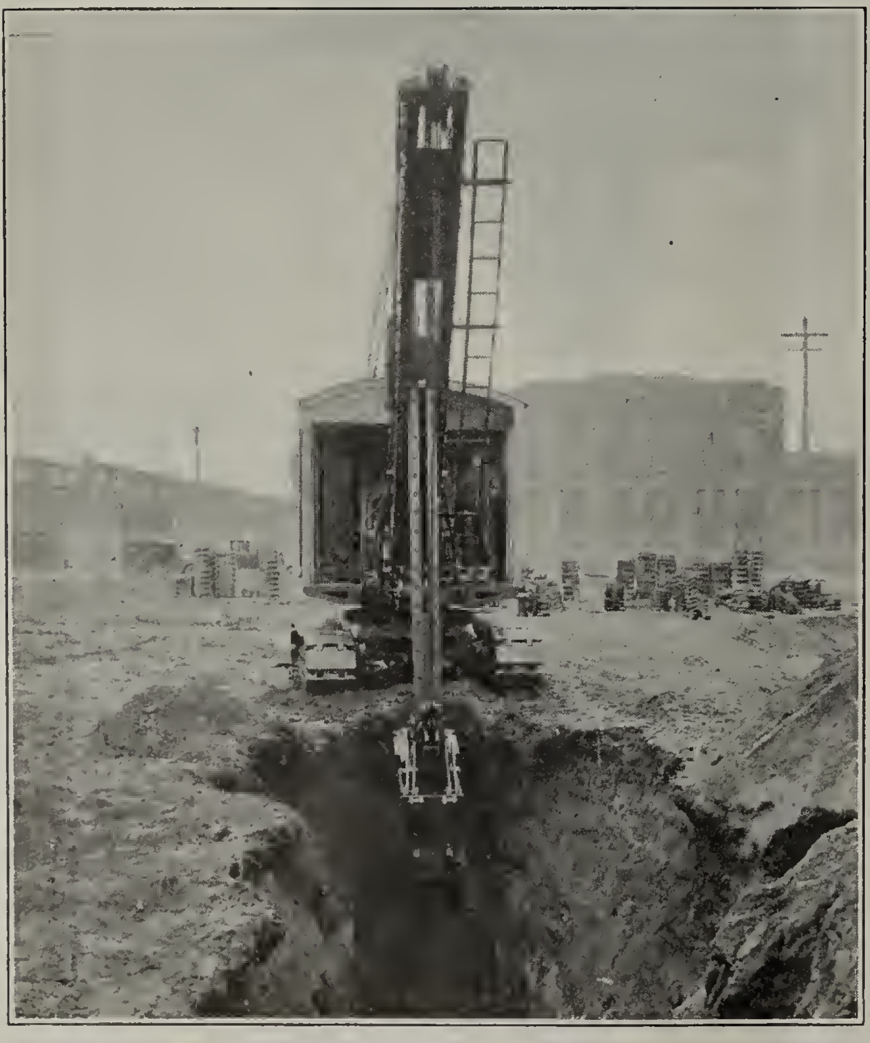
New "Steam Hoe" for Trench Excavation

After nearly five years of study, experiment and test of a patented device for trench excavation, the Ball Engine Co., of Erie, Pa., has just perfected and placed on the market the "Steam Hoe." It might be described, in a homely way, as a "back-acting steam shovel," for the dipper moves *toward* the machine in digging, and fills with a "hoe" motion, instead of being hoisted upward and outward.

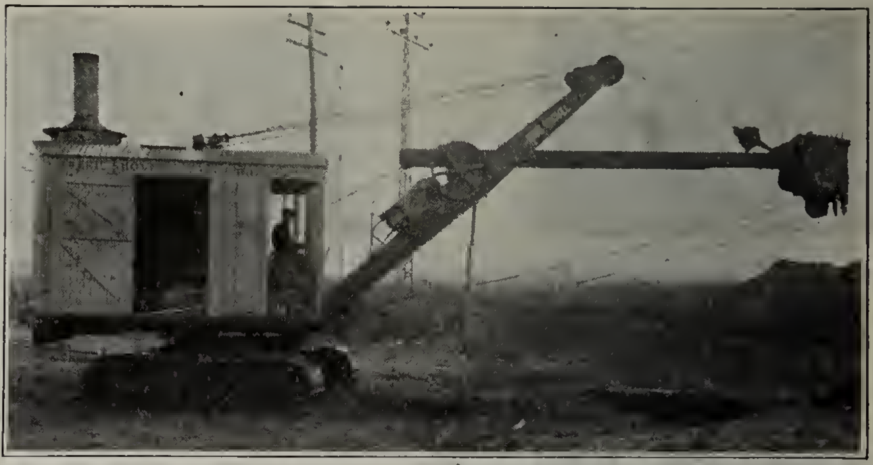
This difference in the digging motion is very important in many kinds of trench excavation. Since the dipper is loaded by pulling in toward the machine, a Steam Hoe backs away from the trench as it digs. Thus it works along always on solid ground, instead of being supported on a platform over the excavated trench like a steam shovel.

But the Steam Hoe's ability to work on solid ground is of greatest advantage in soft or sandy material. On such excavation a steam shovel, with its weight carried by the side of the trench, is delayed by many cave-ins. The Steam Hoe not only does away with most of the cave-ins, but eliminates much of the trench-bracing. While the Steam Hoe is especially adapted for soft and sandy soils, it is just as well suited for the hardest kinds of trench excavation—such as cutting through stiff shale, or large boulders. This work requires all the strength and power of a steam shovel, which the Steam Hoe affords.

Equipped with 22 ft. dipper handle, the ERIE Steam Hoe digs trench as deep as 14 ft. When digging a trench of this depth, it is best to carry the boom at 40 degrees with the horizontal. At this angle, the ERIE Steam Hoe, with 22 ft. dipper handle, can dump material 13 ft. 9 in. above grade and 33 ft. from the center shaft. Excavated material is piled high, well away from the trench.



Type "B" Erie Shovel on Caterpillar-Type Mounting, Equipped with Steam Hoe Attachment and 24 Ft. Dipper Stick. (Note Crumbly Material.)



Type "B" Erie Shovel Equipped with Steam Hoe Attachment.

By means of the power-driven worm gear operated boom hoist with which every ERIE Steam Hoe is equipped, the boom can be quickly set at the most effective digging angle.

In ordinary materials such as earth or gravel, the Steam Hoe easily gives an output of 200 to 300 cu. yds. a day in trench excavation. The machine is very quick acting, with the same simple control that has proved so successful on the ERIE Steam Shovel. It is furnished with either traction wheel or caterpillar-type mounting, the two types of mounting being interchangeable on the same truck frame.

Another valuable feature of this machine is its ready convertibility to either a steam shovel or a locomotive crane. Every ERIE Steam Hoe can be quickly and easily changed over to a steam shovel, for such work as road grading, cellar excavation, loading rock at the quarry face, digging cemented gravel, etc. Or, in less than half a day's time the Steam Hoe can be readily changed over to a Locomotive Crane, to handle a clamshell bucket for such work as loading or unloading cars, deep excavation, etc. The ERIE Crane also gives excellent results with dragline bucket or orange-peel.

* * *

Columbus Automatic Unloader

Eastern Illinois Clay Mfg. Co., St. Anne, Ill., are installing a Columbus Automatic Unloader for the handling of coal from cars to storage bins. With this outfit they can unload a 50-ton car in an hour, and elevate it into bins.

Teams drive under bins, get load in one minute to one minute and a half and consequently one team will do the work of two or even three under ordinary conditions.

Many clayworkers are installing this equipment and thus reducing cost of production, and where several cars of coal are used weekly, the outfit of Columbus machinery will pay for itself in a few months. The actual figures can be secured from Columbus Conveyor Co., Columbus, Ohio.

* * *

Roller Press

A very simple machine, the Roller Press for surface clays, short clays, fire clays and sanitary clays, is placed on the market by the Claycraft Service Co., of St. Louis, Mo. This machine consists of a series of three rolls, that is fed by a pug mill, and the rolls force the clay into the die with a perfect bond without lamination.

Surface clays and laminating clays that heretofore have caused endless trouble have been run successfully on this Roller Press Unit.

A very simple cutter is furnished with this Unit, either hand or automatic, which makes a modern outfit for any clay plant which the manufacturer claim will save time, worry and money.

* * *

Schofield-Burkett Excavator

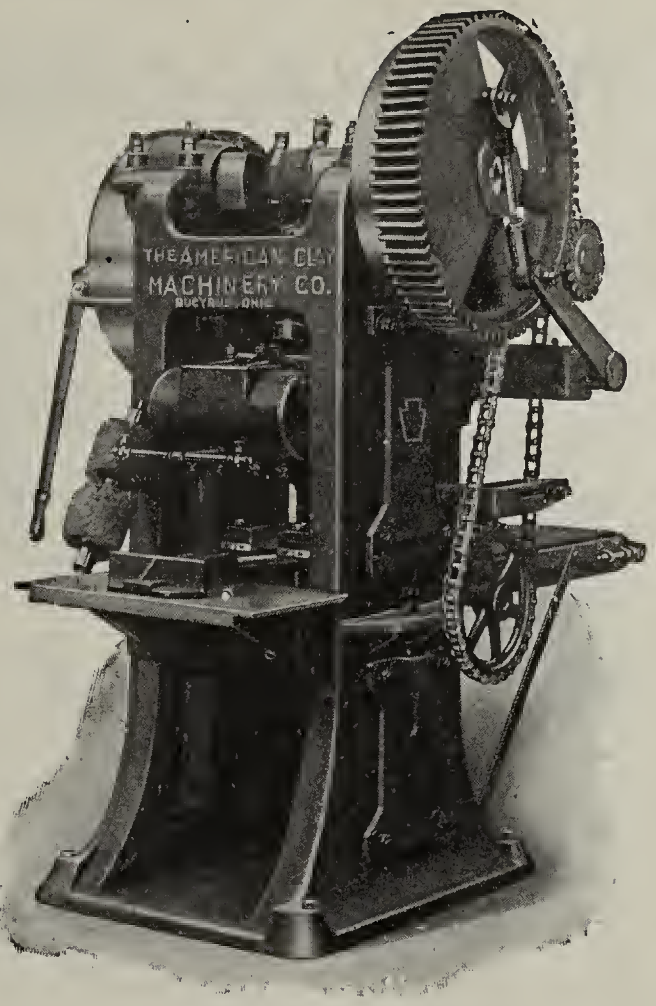
Catalog No. 30 has just been issued by Schofield-Burkett Construction Co., Macon, Ga., showing in detail the particular work for which this drag scraper type of excavator is suited. Attention is called to the dumping device, which was perfected by I. E. Burkett after some 15 years of experimental work, and which gave to the machine a larger radius of action than would otherwise have been possible.

More than 600 of these excavators have been placed in successful operation since it was first placed on the market ten years ago, the catalog naming many of these users, and reproducing several testimonial letters.

Other interesting data is given in the catalog, and the Schofield-Burkett Construction Co. will be glad to send a copy to interested parties.

American No. 292 Repress

The American No. 292 Repress is a praiseworthy product. Moreover it produces a product which is equally praiseworthy. The No. 292 is mechanically perfect, being the successor to a successful line of repressing dating back more than 25 years. Its design is well proportioned, full of strength and rigidity. Its principle is simple and accurately reliable. Its moving parts are wear proof. It is light running and rapid. Get the No. 292 Bulletin for a full description. We build every machine and appliance a successful clay plant requires to maintain quantity and quality of products and to make money.

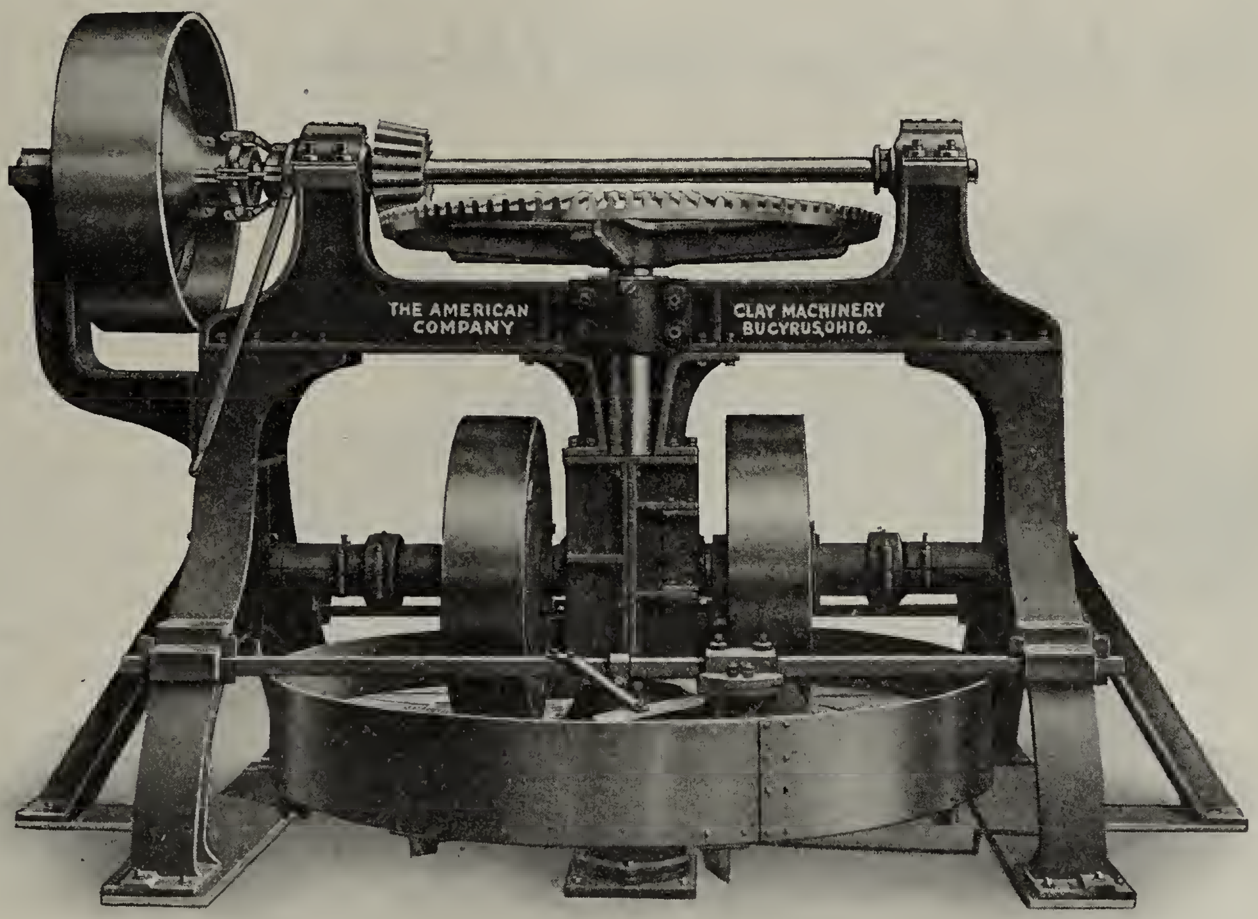


American No. 292 Repress

American No. 339 Pan

This is an unusually worthy pan from a design and building standpoint.

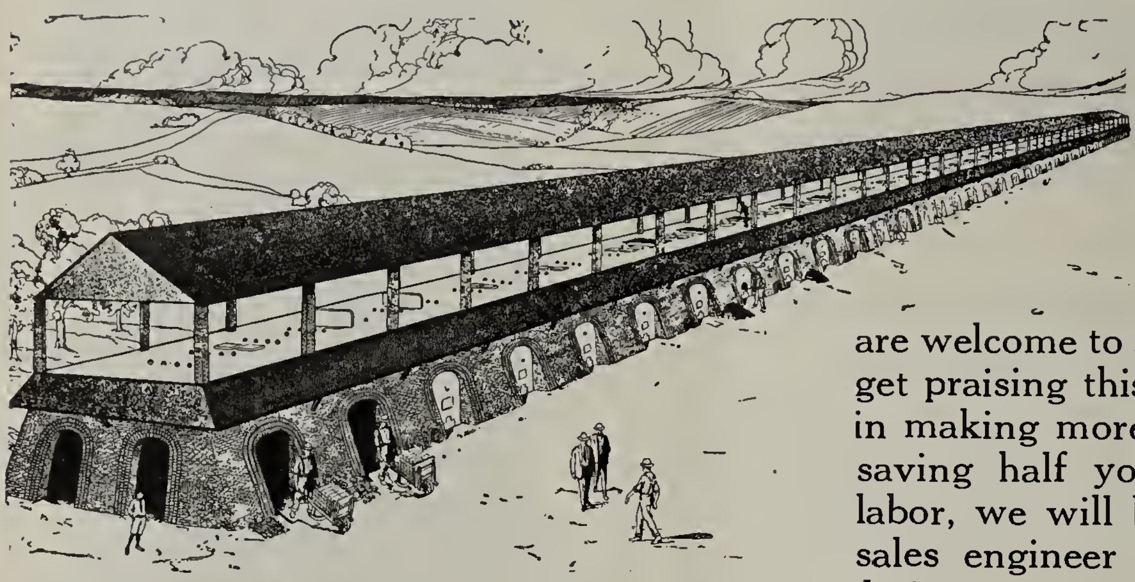
It has many strength features and has a really wonderful capacity. It is one of our larger pans and has a quality that will maintain it at maximum capacity. It does thorough work and is devoid of annoying weaknesses. Get our No. 339 Bulletin.



American No. 339 Pan

The Hadfield-Penfield Steel Co., Bucyrus, Ohio

The Haigh Continuous Kiln

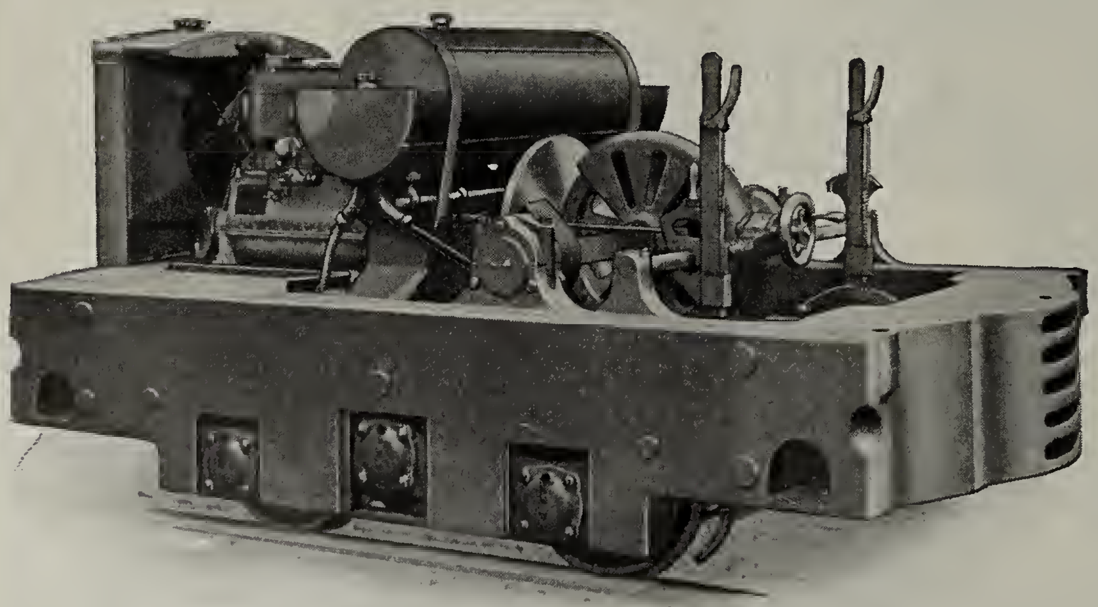


This is a continuous kiln in more ways than one. One of the biggest reasons that it is a "Continuous" success, a "Continuous" coal saver and a "Continuous" money maker for the user. You are welcome to see the many testimonials we get praising this kiln. If you are interested in making more money and better product, saving half your fuel and half your kiln labor, we will be pleased to write you. A sales engineer will call on you if you so desire.

The Hadfield-Penfield Steel Co., Bucyrus, Ohio

Formerly The American Clay Mchy. Co.

The American Gas-O-Motive



American Gas-O-Motive with cab and hood removed

In a Gasoline locomotive for strenuous service, it's the insides that count. Here is a picture of the "Innards" of the American. It's built to stand the gaff of heavy service. In clay plants it has a good record of performance. It is cheapening the haulage cost. It is delivering more clay and doing it easier than by other methods. Users say it is perfectly satisfactory. No trouble. Low expense.

Let us tell you what it will do for you and at how little cost. Catalog on request.

The Hadfield-Penfield Steel Co.

Gas-O-Motive Sales Office, 404 Hippodrome Bldg., Cleveland, Ohio

BRICK and CLAY RECORD

Established 1892. Now in its twenty-ninth year.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

Nearing Prosperity's Port

Cross Currents Outside of Normalcy Harbor Assail But Cannot Prevent Speedy Arrival

THE GOOD SHIP AMERICAN INDUSTRY is approaching the port of Prosperity. Just in front, the harbor of Normalcy beckons as hospitably as of yore.

In sight of her goal, sure of its swift attainment, she is ploughing for the moment thru the choppy sea of readjustment with the cross currents of wage and price revisions breaking violently but **harmlessly** along her keel.

But the engines are driving on, without the slip of a cog in the whirling turbines of efficiency.

BUSINESS STABILITY IN SIGHT

This is why our faith in the speedy return to thoro-going, nation-wide business stability is unshaken by the swarm of indictments, May day strikes, lock-outs and wage disputes that are just now darkening the sky of progress. Our faith is not based upon foolish optimism. Facts prove that the adage, "it's darkest just before the dawn" was never more certainly true than at this present instant.

STOCK MARKET PROOF

There are many solid reasons for this. Perhaps the most striking and significant fact is the present behavior of the stock market. Whatever else the stock market does, it does not reflect current or past events. But it is the unerring, undisputed mirror of the future. The stock market is a practiced discounter of coming events. Last year, long before the persistent depression of the past six months, the stock market definitely foretold the slump of weeks of flabby and panicky fluctuations.

True to its character, on May 2 the stock market, despite the flood of labor dissensions, recorded the strongest tone registered in many a month. It was what was known as "a million share day," backed up by material increases in the selling prices of all securities.

The fact that at the same moment the strike area was at its widest and greatest expansion meant just one thing to the men trained to deal in future conditions,—instead of being a sure sign of anarchy and disaster, current events but prove that this is only a period of honest-to-goodness readjustment.

LABOR AND CAPITAL JUST SPARRING

Labor and capital are not tearing at each others throats with murderous intent—on the contrary they are merely sparring for the best terms on which to get back to normalcy without delay.

But there is stronger evidence still—overwhelming in its reply and answer to the hesitating, fearful prophet of gloom.

The reports of 200 cities already show since January 1st a schedule of projects, which registers activity, already 25 per cent. greater than in any similar period in the past eight years.

PUBLIC NO LONGER ON STRIKE

Facts show that the public are no longer on strike. They are simply waiting for the factors of construction to get together in harmonious activity. The Own Your Home Expositions in Chicago, New York, Minneapolis, Omaha and other cities within the last sixty days all swell one dominant demand: **THE BUILDING PUBLIC ARE READY TO GO AHEAD.** They are no longer interested in wage and price difficulties. They want to get busy.

We believe the construction industry will not long disappoint them. We believe that every contractor in America will have his hands full within a short time. And we believe the present differences of opinion, the strikes and lockouts, will solve themselves in short order.

That is why we repeat our conviction, expressed last week, that now is the time for every building supply dealer to get ready, stock up rationally, arrange his service organization, and do all in his power to promote the get-together and the on-the-job spirit in every city and community thruout America.

The harbor of Normalcy can now be seen with the naked eye. Our arrival is sure.

EDITORS, BUILDING SUPPLY NEWS.

Reprinted from May 10, 1921 Issue "Building Supply News"

The EDITOR'S CORNER

LET'S RECOGNIZE IT!

THE hesitancy on the part of the public in purchasing materials and commodities, will soon be overcome by dire need. Clothes do wear out in time and the time required is not very long at that. So do shoes and a countless number of other things.

The buyer's strike must subsequently end soon since its duration has been of a length to accumulate a demand that must of urgent necessity be manifested and satisfied.

It stands to reason that if we cease to purchase materials we cause a lack of demand that will effect a curtailment in manufacturing operations. This in turn means throwing many people out of employment. The purchasing power of such persons is reduced and the demand in other commodities begins to dwindle. And so it works in a complete cycle until reduced consumption engulfs every business.

What we need now, is a resumption of buying. While this will come naturally in time because of extreme need, it should be encouraged or it will only be a forced or apprehensive purchasing. This will not be sufficient. This condition will not be a healthy one. A re-establishment of confidence in a business revival must be encouraged.

Everyone should talk, think, act and live prosperity. In war times, the Liberty Loans went over in great shape simply because the entire country thought in terms of Liberty Bonds. Similarly, prosperity will be brought back to the country if everyone will think in terms of good business.

There are any number of good reasons why a return of confidence is earned in view of present conditions. Witness the construction activity in April. According to figures published by F. W. Dodge Co., there were more contracts awarded in April than for any other month since June of last year.

In twenty-five northeastern states, contracts awarded in April amounted to $220,886,000. Of this amount, 34½ per cent. was for residential construction. This is an unusually high percentage for this class of building. It means not only so much money being spent for building materials and real estate, but it means that an enormous number of homes must be furnished with furniture, stoves, dishes, rugs, talking machines, and so forth.

This construction is actually going on. The houses are not going to stand idle or vacant and the purchase of commodities such as mentioned above will be made. This means good business for everyone; employment for everyone; increased purchasing power for everyone; prosperity for everyone. It is right at our threshold. Let's recognize it!

* * *

AGAIN, ROOFING TILE

WE ARE GOING to take another crack at roofing tile. A trip thru a beautiful Chicago suburb the other day, unfolded a view of a number of large, new, beautiful homes. Some of them however, stood out more beautifully than others. Examination showed that altho constructed similarly in all respects except as to the roofing, there was a great difference in the appearance of these residences.

Those with clay roofing tile were far more attractive than the type of home roofed with asbestos or slate shingles. The difference was so great that we were prompted to make an inquiry to see just why persons should dress up the homes so beautifully and then cap it with a mediocre roofing. Possibly the cost entered into the proposition.

It was estimated that the roofing area of these homes was approximately 2,000 square feet. An investigation revealed that the cost of roofing this area amounts to $450.00 for asbestos roofing, $800.00 for slate, and $900.00 for clay roofing tile. As most of these homes were of the $20,000 to $35,000 class of houses, asphalt shingling would be out of the question. Thus, there is only $450.00 difference between a material that is in keeping with the beauty of the remainder of the house, and one that is of much less attractiveness.

Even in an ordinary city bungalow, the difference between the cost of asphalt roofing, a cheap material which is quite extensively used, and that of clay roofing tile, is about $350. However, this additional investment would easily add $500 to the value of the house.

If more persons realized that an additional expenditure of approximately one to four per cent. on a house would greatly enhance the beauty of the home and increase its value by more than this additional expenditure, more roofing tile would be used. The thing to do is to educate the public that this is possible.

* * *

COMMON BRICK STOCK

EXCEPTING the Chicago district, the quantity of common brick in stock at various plants thruout the country is surprisingly small. This is indicated by an analysis of a tabulated report of returns made by 126 members of the Common Brick Manufacturers Association. Altho this number of plants represents but a small proportion of the total number of common brick factories in this country, those concerns included in this report are among the larger and probably represent at least one-third of the total production of common brick in the United States.

The stock of brick on hand at these various plants amounts to approximately fifty million brick. If for the sake of argument we may assume the plants included in this survey represent the condition of all of the plants in the country by one-third then the total number of brick in stock would amount to 150,000,000. If this condition represents the true situation in the common brick industry, then it is truly alarming. It has been freely predicted, that a shortage of building materials is likely and that a stampede similar to the one in 1919 might occur.

This state of affairs becomes apparent when it is realized that the above quantity of brick would be consumed in but 150 school buildings and municipal structures. This number of buildings is but a drop in the bucket as compared to the large number of projects that will go forward thruout the entire country. Chicago alone intends to build 25 schools.

The analysis seems to indicate that the common brick plants of the country are by no means overstocked. It appears that consideration might be given to increasing stocks when it is realized that coal may increase in price and that labor has accepted its minimum wage for this year. These two items represent the bulk of the manufacturing cost of common brick.

A COMPLETE BRICK HOME DELIVERED *on the* JOB

Most Intensive Plan Ever Conceived for the Promotion and Advertising of Brick is Put into Effect by the Oklahoma Clay Products Association

IT IS SAFE to say that you have never heard of an advertising campaign such as the Oklahoma Clay Products Association is now promulgating. It is undoubtedly the most intensive mode of construction promotion and advertising yet undertaken in behalf of brick. The plan surmounts every obstacle in the way of brick or tile construction and solves every problem the prospective home owner may have to encounter. An obstacle that has always confronted the clay industry in furthering the use of its product has been the fact that clay ware is but one constituent part of the project in which it is incorporated. It is interesting to note how the plan described herein hops this hurdle altho it involves promotion on a scale heretofore never attempted in the clay industry.

H. C. McCord is secretary of the Oklahoma Clay Products Association and the following concerns, members: Ada Brick Co., Ada; American Brick and Tile Co., Oklahoma City; Choctaw Pressed Brick Co., McAlester; El Reno Brick Co., El Reno; Francis Vitric Brick Co., Boynton; Howard Brick Co., Claremore; Mid-Continent Brick and Tile Co., Tulsa; Muskogee Vitrified Brick Co., Muskogee; Okmulgee Brick Co., Okmulgee; Pawhuska Vitrified Brick and Tile Co., Pawhuska; Poteau Brick Co., Poteau; Sapulpa Brick Co., Sapulpa; Standard Roofing and Material Co., Muskogee; Tulsa Vitrified Brick and Tile Co., Tulsa; Wagoner Dry Pressed Brick Co., Wagoner.

MODELED AFTER C. B. M. A. CAMPAIGN

The campaign was conceived last December when it was decided to carry on a promotion campaign designed to advertise brick houses and to promote the construction of same. It was modeled along the lines of the campaign being conducted by the Common Brick Manufacturers Association of America, but it goes much further in its scope than the above organization can hope to. Every detail in home construction has been included in the plan.

Thus far, the work has been preparatory. However, the plan has now "entered college", and is being carried on to a finish. It involves not merely advertising but actually promotes home building until the home is finally finished and delivered to the owner.

Since the first of the year the association has been getting ready numerous plans of houses which they are advertising, can be built as cheaply of brick as of frame. An architect retained by the association produces the drawings and plans for these houses and then the association works with contractors who are willing to devote their time and energy to brick construction.

After a plan is ready, it is placed in the hands of various contractors for figuring. Moreover, a set of the plans are sent to each brick manufacturer in the state who likewise has them figured in his territory and the brick manufacturer then advises the association of the figures which they are able to obtain. In this way, the organization knows what each and every house can be built for over the entire state of Oklahoma.

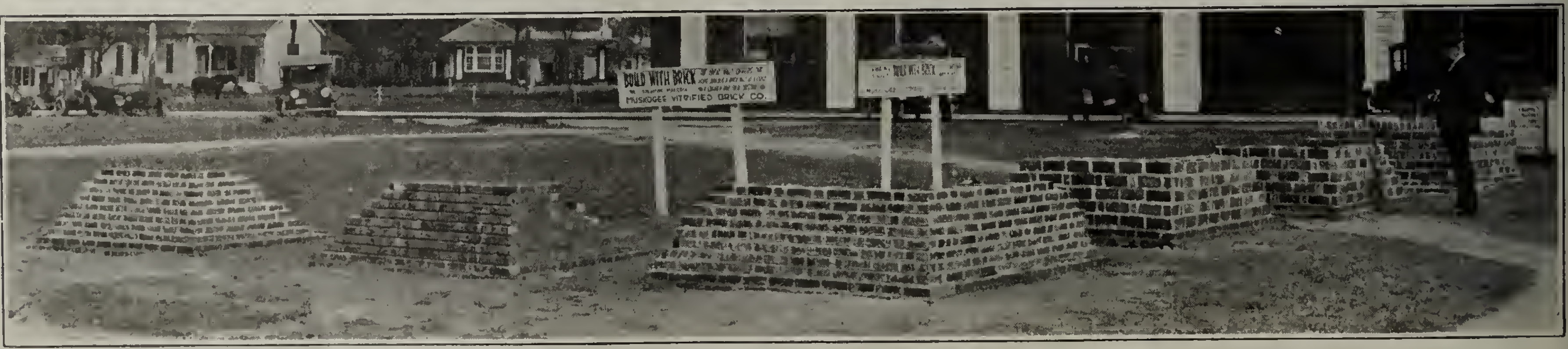
CAMPAIGN POINTS OUT STRONG POINTS OF BRICK

Another feature of the plan includes the preparation and distribution of pamphlets and leaflets dealing with brick construction and pointing out the strong points in favor of brick. The association has gone so far as to explain to the people that the initial cost of a brick house is as cheap as the initial cost of a frame house and there is always included in the plans the most up-to-date fixtures.

The activities of the Oklahoma Clay Products Association are being confined solely to home construction and also to houses ranging in cost from $2,000 to $10,000. The organization feels that this is the construction that is now going to frame more than any other type. When a residence is built costing over $10,000 it is generally going to some kind of masonry construction, and the primary purpose of the Oklahoma association is to convert the average man and home owner to brick.

HOME DELIVERED TO OWNER COMPLETE

On Sunday, May 1, advertising in every Sunday paper of the state was begun. The advertising campaign does not include so much the education of the people as to the advantages of brick, because it is felt that every sensible man already knows the many advantages of this product. On the other hand, the campaign will be directed in driving home the fact that a brick house is as cheap as a frame house in the initial cost.



Realizing the Greater Effect Samples of Brick Hollow Wall Construction Would Have Over the Ordinary Advertising Methods, the Muskogee (Okla.) Vitrified Brick Co. Built up Sections of the Various Types on an Important Street Corner in Muskogee.

The campaign does not strive to sell brick but rather to sell homes constructed of brick. Members of the Oklahoma Clay Products Association feel that not enough time and money has been spent in selling the home, and that on the other hand, too much time has been spent in selling the brick. This organization now intends to change the policy and to sell the home—furnishing the brick, plans, the contractor to build the home, and if necessary, to place the prospective builder in touch with parties from whom they can secure money to build with.

This View Gives a Better Idea of the Structural Features of the Brick Hollow Wall Samples in the Muskogee Vitrified Brick Co.'s Street Corner Display.

The promotion plan of the Oklahoma Clay Products Association contemplates the employment of four or five men whose duty it will be to get in touch with prospective builders and drive home to them the fact that the brick house is the cheapest home. These men will get in touch with prospective builders in various ways such as by advertising, keeping in touch with real estate transfers, building and loan associations, banks, and various other methods that may arise from time to time. All of this work is now in full swing and is producing results for Oklahoma brick manufacturers.

In addition to the above work, some of the individual companies are doing work of their own. For instance, the Muskogee (Okla.) Vitrified Brick Co. has rented some space in the down town section of the city of Muskogee where it has erected several displays of the new brick hollow wall. Photographs of these exhibits accompany this article.

⁂

April Shows Big Gains in Building Activity

Construction activity in April, according to figures published by the F. W. Dodge Co., was greater than for any other month since June of last year. Contracts awarded in the twenty-five Northeastern states during April amounted to $220,886,000. This is the largest figure recorded for April of any previous year except 1920. April, 1920, was the peak of last year's boom.

The April total was 341 per cent. greater than that for March. During the past five years the average increase of April over March has been 14 per cent.

Residential building maintained the lead over all other classes in April. This class amounted to $75,015,000, or 34 per cent. of the total. Public works and utilities took second place, amounting to $48,043,000, or 22 per cent. of the total. Business buildings accounted for 13 per cent., or $29,176,000; and educational buildings, 10 per cent., or $22,640,000.

At the end of January, activity from the first of the year to date was 6 per cent. behind the average for the preceding five years; at the end of February it was 11 per cent. behind; at the end of March, 4 per cent. behind; and at the end of April it was 5 per cent. ahead of the average for the first four months of each of the preceding five years. The total investment represented by building contracts let from January 1, 1921, to May 1, 1921, has amounted to $597,470,000.

The demand for new construction still continues very strong. Contemplated new work was reported in April to the amount of $392,272,000, bringing the total of contemplated work reported from the first of the year up to $1,694,384,000, nearly three times the amount of contracts awarded in the same period.

The demand for new construction is so insistent that it seems likely that increased activity will prevail during the coming months. At the present time the one thing that threatens a setback is the attitude of labor. Wage disputes are reported from numerous large centers. However, in view of the fact that other fields are so much less active than construction, and that the amount of unemployment is a matter of serious concern, it seems probable that, at the worst, labor troubles will retard construction activity only temporarily.

⁂

U. S. Appropriates $200,000,000 for Highways

A bill providing federal funds for the establishment, construction and maintenance of an interstate highway system, and for the creation of a federal highway commission, which has been advocated by paving brick interests and other road material factors, has been referred to the senate committee on postoffices and post roads. The move is a significant one at any angle from which the highways situation of the country is viewed. The latest development marks the final results of years of effort on the part of many people interested in highway improvement and construction.

Important features included in the measure are:

1. Creates a Federal Highway Commission and defines the conditions of their appointment and service.

A Close-up View of a Part of the Muskogee Vitrified Brick Co.'s Brick Hollow Wall Display.

2. Provides for the establishment of a Federal Highway System and defines the manner by which such a system shall be established.

3. Provides that the War Department may turn over to the commission such surplus material and equipment as the War Department does not need, but that the commission may use.

4. Defines the terms under which the several states may cooperate with the government in carrying out the provisions of the act.

5. Defines the kind of materials that may receive Federal aid by saying: "That only material shall be adopted * * * as will adequately meet existing and probable future traffic needs and conditions thereon."

6. Transfers all powers and duties of the Secretary of Agriculture and all activities of the Department of Agriculture under existing laws to the commission.

7. Appropriates $100,000,000 for the fiscal year ending June 30, 1922, to become immediately available and an additional $100,000,000 for the fiscal year ending June 30, 1923.

* * *

APPEAL HARDING *for* FREIGHT RATE DECREASE

A STRONG, concerted appeal has been made to President Harding for a reduction in present freight rates on behalf of the manufacturers of burned clay products thruout the country, in company with other building material interests. No less than eight national organizations have joined together in the movement, and under the auspices of Francis B. James, well-known commerce counsel of Washington, D. C., have sent a memorandum to the President asking his immediate aid in the matter. The different organizations include the National Paving Brick Manufacturers' Association, American Face Brick Association, Hollow Building Tile Association, National Association of Sand and Gravel Producers, National Crushed Stone Association, National Lumber Manufacturers' Association, Gypsum Industries Association, and the American Mining Congress.

The President's attention is called to the fact that despite the unprecedented demand for all kinds of construction, the building and road-making industries are practically at a standstill.

HIGH FREIGHT RATES DELAYING BUILDING

It is pointed out that while there are many factors contributing to the delay in the prosecution of building work, the chief cause of deferment is the excessive freight rates applying to that class of building materials which are heavy loading and of low value, including brick, building tile, lime, plaster, crushed stone, etc.

Freight rates on building and road-making materials have been increased an average of 110 per cent. since 1917, it is set forth, as compared with seventy-five per cent. applying on general commodities. In some instances the rates on these materials are now in excess of their price at the point of production.

The rates on building and road-making materials have been advanced beyond the point which the traffic will bear, it is maintained, and thus shippers of these materials are denied their former markets and the carriers are deprived of a large volume of traffic, with consequent loss of much-needed revenue, while the public is sorely in need of homes and highways. The railroads at the present time have a vast number of cars and locomotives standing idle which could be utilized for carrying building materials.

NECESSITY FOR READJUSTMENTS ANTICIPATED

It is pointed out that in rendering its report in Ex Parte 74, the Interstate Commerce Commission gave cognizance to the necessity of readjusting rates to meet changing conditions, and to remove hardships created by the hasty consideration of the case necessitated by the emergency involved. It was recommended that such readjustments be effected between the shippers and the carriers without appeal to the commission.

However, the shippers of building materials have not been able to prevail on the carriers to make proper revisions. Public authorities must intervene in the matter.

It is well known that proceedings before the commission are not only expensive, but entail long and unavoidable delays. On account of the fact that two of the months of the normal building season have already passed, and same will end early in November, there is need for immediate action.

The delegation of representatives of building material manufacturers photographed while leaving the White House after calling on President Harding and asking his aid in the fight for lower freight rates to stimulate building activity.

In the front row from left to right are H. M. Keasbey, Hugh Fullerton, E. Guy Sutton, Francis B. James and J. G. Barbour.

In the back row are Frederick Schwerner, W. M. Councill and A. P. Sandles.

For this reason the usual course of procedure thru the Interstate Commerce Commission cannot be contemplated.

In conclusion, the memorandum requests the President's advice and assistance in bringing about an expeditious handling of the matter.

PAVING BRICK MEN MEET AT WASHINGTON MAY 20 TO TRY FOR LOWER FREIGHT RATES

A most important meeting of paving brick and road material interests is scheduled for May 20, at the Hotel Washington, Washington, D. C., when paving brick interests will be asked to present data relative to the effect of high freight rates upon the product. The object to be sought will be immediate reduction in freight rates on the materials, and efforts will be made to show how lowered costs of transportation of the materials will reflect advantageously upon the country in quickened response to road building. It is not unlikely that if lowered freight rates can be achieved, the entire brick and clay-working industry may benefit thereby, so that construction other than road work may go ahead with added speed.

Call has gone forth to all members of the National Paving Brick Manufacturers' Association to have company heads or plant superintendents present at this meeting, with their information on freight rates and their direct relation to the cost of brick road building. This data will be laid before railroad presidents and it is believed that hardly a question that they will ask will fail of an answer. Indications are that a strong representation of paving brick interests will be present at this meeting.

HEADS OF RAILROADS TO BE PRESENT

Daniel Willard, president of the Baltimore & Ohio Railroad, is credited with taking the initiative in bringing the railroad presidents together for this hearing. They are understood to have consented to deal directly with the high officials of the paving brick and other material factors, and the promise is that all technicalities will be waved aside in order that a comprehensive program for dealing with present complexities in the railroad and building material industries may be arrived at.

Whether all building material company heads will be heard by the railroad presidents at this meeting is not certain, but it seems to be definitely settled that the paving brick and other road material interests will be heard.

* * *

Getting Exact Data on Strength of Brick

New edition of "Brick—How to Build and Estimate," has been compiled by officials of the Common Brick Manufacturers' Association of America, and will soon be printed. The new edition will contain more data, and be still more valuable as a technical book for contractors and engineers.

In preparing the section on strength of brick work it has been apparent that little information has been available on the relative strength of individual brick and various mortars as compared with the strength of brick structures. It is pointed out that the present practice regarding safe loading of brick is extremely conservative and not only causes waste of material, but tends to create a preference for other materials whose properties are known more accurately.

For this reason it is considered that it is vitally important to the brick industry that further tests be made so that more exact formulas can be worked out for the use of engineers and architects.

The association is going ahead with its program to obtain two samples of brick from every locality so that the association will be able to advise architects and builders regarding the characteristics of brick from the various cities. Each brick will be labeled and identified so that all inquiries to this end can be met quickly and efficiently.

Meanwhile brick interests of Tennessee, Georgia, Alabama and Louisiana are due for some rousing get togethers during May, when meetings are held at Nashville, Tenn., Birmingham, Ala., and Macon, Ga., on May 17, 18 and 19. Another strong addition of new members is anticipated as a result of these meetings.

* * *

Horse Sense

An interesting story is told of the days of some time ago when the art of manufacturing brick by machine was not generally practiced but man's hand molded the brick and God's sun dried them. Old timers will remember that the clay was prepared in a "mill" the motive power for which was usually supplied by a horse harnessed to a "sweep", traveling in a circle. A plodding, dependable animal was used as a rule for this work and old "John Hoss" was one of this type.

In order to get the most out of the "dryer", operations were begun about four o'clock in the morning, enabling the men to get the brick on to the drying fields by noon. Thus the greatest heat of the sun was taken advantage of. "John Hoss" was never tied in his stall and unfailingly, at exactly four o'clock he would back up to the sweep of his own accord, the harness would be thrown over him and the day's work begun. John never failed to make his appearance at the mill in the morning and just as promptly ceased his labors at noon tho the mill might not have been emptied.

During the good weather season work was often continued on Sunday but when sufficient brick had been made Sunday work was suspended. Not for "John Hoss", however, promptly every Sunday morning at four o'clock John backed from his stall and took his place at the sweep and remained there until some one would harness him and unharness him again. "John Hoss" was tied in his stall, with a broken halter strap as the result. The door was barred, but John's heels opened the way for him.

So every Sunday morning until far into the fall some grumbling workman would have to desert his bed at dawn and go to the yard to hitch up "John Hoss", permit him to take a few turns and unhitch him, after which the faithful horse would contentedly roam to his favorite pasture to graze.

* * *

A. F. B. A. Advertising Program Wins Praise

In a recent issue of "Judicious Advertising" this magazine lauds the campaign which the American Face Brick Association is conducting in an effort to popularize the use of brick as a home building material.

"Thoroly planned and carefully worked out, this campaign is an example of association advertising of the highest type. No small degree of insight is shown in selecting from the mass of argument just those high lights which catch and hold the public eyes."

The above is what "Judicious Advertising" says of the campaign and also says it is highly to be commended for its stimulation of building.

* * *

Expecting Active Demand

The William Graham Co., Bordentown, N. J., operating the White Elephant Brick Co., is maintaining active production at the plant in the line both of common and face brick. The company looks forward to an active call for material. The plant is equipped to handle orders of any size, with a rated yearly capacity of 8,000,000 brick.

SHALL I STOCK, CONTRACT *or* BUY COAL *as* REQUIRED?

This Perplexing Problem Confronts Nearly Every Clay Products Manufacturer—Five Large Coal Operators Express Their Views on Coal Situation

INDIFFERENCE as to the situation in the coal industry, confusion as to just what is the right manner to handle the coal problem, and indecision on the part of clay manufacturers with respect to any action on coal purchasing, prevails everywhere in the clay products industry.

With the thought of aiding the manufacturer in solving this perplexing problem, several large coal operators were asked to express their views on the coal situation referring especially to the situation in the clay products industry. Opinions set forth by various operators are published below, but before presenting them, it is advisable to read the following excerpt from a letter by George Otis Smith, director of the United States Geological Survey, on the 1920 soft coal shortage. He says in part:

"In studying the bituminous coal prices there are two facts of fundamental importance which must be kept in mind. The first is that coal is a necessity of life, and that the demand for it is highly inelastic. For not only is coal a necessity, but it is one for which substitution on a large scale is impossible. We simply cannot cut fire wood enough to make a dent in the nation's fuel budget. Rather than go without coal people will pay double or quadruple the price of ordinary times. On the other hand, if you were to cut the price in half and sell at less than the cost of production, you could not dispose of more coal, except as people might take advantage of the low prices to add to their stocks. This is the first point to remember.

SPOT SALES ONE-QUARTER OF TOTAL

"The second is that this rigid and unyielding demand is in times of shortage concentrated upon a limited part of the total output, namely, that portion available for spot delivery known as 'free coal.' At any one time the bulk of the coal shipped is under contract and only a fraction of it is available to meet the spot demand. Nobody knows just what part of the whole the spot sales ordinarily constitute, but over the country as a whole they seldom exceed one-fourth of the total. Now, in times of shortage this margin between the total production and the contract coal, which is free to satisfy the spot demand is greatly restricted. At the same time the number of consumers desiring to purchase spot coal increases, for the very fact of the shortage usually means curtailment of production, and the operators are therefore unable to meet the quotas called for by their contracts.

"The consumer who fancies himself protected by his contract may find suddenly that to supplement his dwindling receipts he must enter the spot market. This brings about a condition in which the rigid and unyielding demand for coal, sharpened and pointed by scarcity, is concentrated upon a narrow margin of free coal. When that happens the price is likely to rise in spectacular fashion.

"The effect of these two fundamental principles, the inelasticity of the demand for coal and the contraction of spot tonnage in times of shortage, bring it about that even a slight mal-adjustment between supply and requirements may cause a very great increase in spot price."

OUTLINE OF COAL SITUATION

The following excerpt from a letter which was received from a large coal operator with headquarters in Chicago, is perhaps one of the best outlines of the situation in the coal industry as it affects the clay products manufacturer, of any that we have received. It states:

"From the best information we can obtain it appears to us that the consumer of coal will find it wise and profitable to accumulate as rapidly as possible from sixty to ninety days' supply for many reasons—first—insurance of the activity of his plant; second—the saving of considerable money, because prices are unquestionably at their lowest ebb and will be substantially higher with speculative possibilities for the greater part of the last half of the coal year.

"Unless there is a heavy increase in the output of coal during May and June, over what it was in April and March, it will be necessary for the mines of this country to maintain an average production of 15,000,000 tons per week from July 1 to January 1, in order to meet the requirements of the country with even a fair industrial revival.

"The railroad situation is notoriously poor, with no prospect of substantial improvement this year. The enormous tonnage of October, 1919, just prior to the miners' strike when every railroad was keyed up to its highest efficiency did not average 13,500,000 tons per week.

"Following the exceptionally mild winter of 1920-1921, one has every reason to anticipate a seasonable winter, if not a severe one, calling for abnormal quantities of fuel for household purposes.

WAGE CONTRACT RENEWAL MAY MEAN TROUBLE

"The wage contract with the United Mine Workers will expire March 31, 1922. The miners have gone on record as positively refusing to consider any reduction in pay during the life of the present contract, and leading mine workers' officials state that the miners will accept no reduction in pay on a new contract, to take effect April 1. Under such conditions history shows that with a failure to reach a wage agreement on the first conference in January there is usually an abnormal demand for two or three months, with attendant speculative prices.

"There is not a non-union mine in Illinois, Indiana or Ohio. Under Illinois laws it requires two years for a man to get a card as a coal miner.

"We would not predict a strike or cessation of work April 1 for any period, but it is not so many years ago since Illinois was tied up by a shut down for six months, because of failure to reach contract agreement with the miners, and there have been other occasions of shut down for weeks and months at a time.

"In other lines generally there have been wage readjustments and doubtless will be numerous others in the meantime, so it would seem that the pressure of public opinion will force mine workers to accept similar readjustments.

RAILROADS UNPREPARED FOR BIG TONNAGE HANDLING

"Leading railroad officials admit that the railroads are in no position to handle a normal amount of business, to say nothing of the prospect of a heavy crop movement and a revival of industry of even fair dimensions, and exhibit real concern at the serious situation confronting the country.

"The coal operator whose mines are at present running but one or two days a week cannot well make a statement of the facts recognized by every student of the business situation without being charged with having an axe to grind or being a calamity howler and crying 'wolf! wolf!' as he has been accustomed to do in similar situations; of having his personal interest at heart rather than the good of the nation, but the foregoing seems to us to present a situation which the substantial user of coal cannot afford to ignore."

SEES NO LOWER COSTS

An eastern coal operator recommends that coal should either be contracted for now or a large supply stocked under present prices. His letter states:

"We are in receipt of your letter of May 5, asking for our opinion as to what method a clay plant should follow in buying its fuel for the coming year.

"It is very difficult to give advice in face of the present situation. There are, however, a few facts which show conclusively in our belief that coal cannot get any cheaper for some time to come and that, therefore, consumers will be wise either to buy their coal now and stock it if they have the storage space and the money with which to pay for it, or contract for their season's requirements at a time when contract quotations are as low as they are ever likely to be.

The soft coal production in the United States for the year antedating the war to the end of 1920 was:

Calendar Year	Total Production Tons
1913	478,435,297
1914	422,703,970
1915	442,624,426
1916	502,519,682
1917	551,790,563
1918	579,385,820
1919	458,063,000
1920	556,563,000
Average for 8 years	499,010,719

"By far the greater part of the coal produced in the central Pennsylvania district is mined by union labor. The agreement as to wages with the union does not expire until April 1, 1922, and the miners are firm in their refusal to accept any reduction until the expiration of the present contract.

"The weekly reports of the Geological Survey and the preliminary estimate of stocks issued by that same department, show that production of coal for some time has been below consumption and that stocks are nearing the danger point. The railroad equipment is not in good condition and in case of a revival in business there will be undoubtedly trouble in moving the coal required. Whether there will be an actual shortage or not depends on when and how rapidly the revival in business takes place.

"For the reasons given above we do not see how the price of coal can possibly go any lower until an adjustment of wages has taken place and there seems no possibility of that occurring until after next April."

PRICES STIFFER IN SUMMER

The operator whose views are given in the following excerpt of his letter, warns that the railroad would not be likely to average better than giving sixty per cent. of the car supply that will be required for coal during the coming fall and winter.

"The clay product manufacturers can probably purchase coal on the open market between now and August 1 at low prices, possibly below those at which they could place contracts. However, we feel that from August 1 to November 1 open-market prices will be considerably stiffer and more than likely be above present contract prices. Under the circumstances, we believe, that they will be safe and lose no money by placing contracts for their requirements.

"As to plants that operate during the entire year would say, that there is no question in our minds, but that plants of this type should place their contracts promptly and should secure, within the next sixty days, a fair stock of coal in their yards.

"The production of coal for the last three months has been far below normal, and even considering the general industrial depression, it has been below the actual consumption of the country. During the last two months practically all buyers of coal who had storage have shut off shipments and are using their storage. During the fall and winter it is not likely that the railroads can give an average of better than a sixty per cent. car supply. This will not take care of a demand caused by the attempts to purchase a twelve months' supply of coal during a period of six months."

CONTRACT COAL TIGHTENING

Manufactured commodities that are necessary to the country's existence are beginning to run short, and the demand will soon accumulate so that manufacturing must pick up some which will effect a very decided improvement in general business. This in turn will increase the demand for coal as is pointed out in another coal operator's letter, excerpts of which are printed herewith:

"Our company supplies quite a number of clay products plants with their coal. We are advising all of them to cover their requirements with contracts, even tho coal on the open market today is materially cheaper than we could agree to accept on annual contract.

"I believe that any clay products plant that has or expects to have any kind of demand for its ware this coming summer and fall, and winter, should by all means lay in just as much coal as it can handle without too much extra expense, during the next sixty days. If business in general begins to improve, there will undoubtedly be a tremendous car shortage.

"Even if business does not improve, materially, it must improve some, because the manufactured commodities that are necessary to the country's existence are beginning to run short, and the demand will be such that manufacturing must pick up some, and it will not take a very decided improvement in general business, to change the present idle car report from plus to minus.

"In view of the prospect for a car shortage, many coal operators are already refusing to take on further contract commitments, believing that by holding their production free they will shortly be able to realize a very much better price than they can today realize on contract coal to run a year."

BUSINESS PICK UP WILL CAUSE RISE IN COAL PRICES

The letter that is given below, points out that a very small impetus to the picking up of business will afford a radical recovery in coal prices. This operator advises clay plants to make contracts for their requirements now.

"We would unhesitatingly say that a brick or clay products plant which expects to operate continuously thruout the year, or at least, until cold weather strikes us, should make a contract now for their season's supply. It is undoubtedly true that Illinois and Indiana coal can at this time, be bought for much less than its actual cost of production, and any plant which has a large storage capacity and is buying on the market, would do well to stock up all they can at the present ridiculously low prices for coal. However, as few, if any plants would have sufficient storage capacity to carry a supply for six months or more, and as coal prices a very few months from now are likely to be much higher and essentially above present contract figures, the only safe thing to do is to contract with reliable mines for the plant's full requirements. By playing the open market the buyer might save twenty-five cents to as much as fifty cents per ton against contract prices for perhaps a couple of months, but he would run the risk of having to pay from $2 to $3 more per ton for six or seven months.

"The fact is, that the railroads will be in worse shape than ever to handle business, and principally the coal business, during the coming fall and winter. Practically all railroad officials admit that they are not repairing cars nor are they keeping motive power in proper condition, due to their present unprofitable condition and because they do not have the money to pay for the repairs. They admit that they are going to be shorter than ever of cars and motive power commencing with the late summer months, and, with a return to anywhere near normal business conditions, we are bound to experience as severe a car shortage as the country has ever seen, and a coal famine that is liable to drive prices to abnormally high levels, unless the question of price is taken in hand by the government.

WILL MAKE UP FOR LOW PRICES NOW

"A great many of the coal operators take the position that if market conditions compel them (as at present) to slaughter prices and to sell their output at a very heavy loss on the basis of free competition among the sellers, that it will only be fair when conditions are reversed and coal is short, to let the free competition among buyers and bidders for coal, establish whatever price can then be obtained on the open market. All conservative operators would prefer to cut out these curves of extremely low and very high prices and to do a stable business at all times on the basis of at least cost, during the summer and a normal profit during the fall and winter months, but, unfortunately, the attitude of the general public by refusing to store coal during the summer, coupled with tight money and the industrial apathy, seem to make this condition impossible.

"You will find that every man in the coal business, knowing what is ahead, has already put in his winter's supply of coal, or, at least, given orders to have it delivered; but it is a deplorable fact that a great many industries as well as the general public, are under the mistaken impression that because coal prices are extremely low now, they will continue so thruout the year, or, at least, until there is a tremendous revival of industrial activity.

"The fact is, however, that it will take but a very small impetus to effect a radical recovery of coal prices, particularly since all storage stocks of coal have been used up during the past few months."

A MINE RUNS ONLY WHEN CARS ARE AVAILABLE

Tho the above opinions are from coal operators, they contain thoughts that are worthy of due consideration by the clay plant owner. There is no doubt of the dependence of the coal producers on transportation. A mine is unable to store coal and hence produces only when cars are available.

For the past eight years the average production of coal in the United States was approximately 500,000,000 tons. Up to May 1 of this year, but 130,000,000 tons have been produced. Thus, if an average year will maintain it will mean that the weekly coal production from May to December must be over 11,000,000 tons. This is equal to the maximum production that was maintained in the fall of 1920 when coal prices were exorbitant and coal hard to get.

Even in the year of 1914, which was a year of depression, and during which the coal production was the least of any of the past eight years, 423,000,000 tons of coal were mined. It is estimated that by June 1 of this year, but 160,000,000 tons of coal will have been produced. This means that there are approximately 253,000,000 tons of coal that would have to be produced in the remaining seven months if we were to have a poor year as far as business activity is concerned as in 1914. This means a production from the first of June to January, of 9,000,000 tons of coal a week. In the condition that the railroads are at the present time, it is doubtful if they could handle even this production. However business cannot long remain in the dumps that it has been in during the past half year. It must pick up and will do so because demand is being dammed up to an extent where it must soon overflow. This means added demand for coal and added demand for railroad equipment.

A forecast based on active buying of coal beginning July 1, taking 500,000,000 tons as the average yearly requirements as computed in a table printed elsewhere in this article.

Production—		
January, actual	40,270,000	
February, actual	30,851,000	
March, approximated	29,877,000	
April, estimated	29,002,000	
May, estimated	35,000,000	
June, estimated	35,000,000	
Total in six month		200,000,000
Required monthly, July to Dec., inclusive	50,000,000	
Required in 6 months		300,000,000
Required for year 1921		500,000,000

Every clay product manufacturer should consider the data contained in this article, analyze the various points brought out and draw his own conclusions.

Paving Brick Association Elects Officers

Following the election of officers for the National Paving Brick Manufacturers' Association, Cleveland, Ohio, and the appointment of the committee that will shape the policies of the organization, the official family of the body has been completed.

The committee on policy, who will advise with the board of directors, includes: Chairman O. W. Renkert, Metropolitan Paving Brick Co., president of the association; E. G. Matteson, associate member, Galesburg; S. M. Duty, Medal Paving Brick Co., Cleveland, and chairman of the board; E. L. Middleton, Barr Clay Co., Chicago; R. L. Winslow, R. L. Winslow Co., New York City.

With President Renkert the officers are: Vice-presidents, W. M. Lasley, Chattanooga; W. P. Blair, Cleveland; treasurer, C. C. Barr, Streator, Ill.; executive secretary, M. B. Greenough, Cleveland.

The board of directors with Chairman Duty includes: C. C. Barr, Streator, Ill.; C. C. Blair, Canton, Ohio; W. M. Lasley, Chattanooga, Tenn.; F. W. Lucke, Chicago; C. P. Mayer, Bridgeville, Pa., all of whom represent the territorial associations.

* * *

Coal Prices in Middle Western Markets

Coal production is low and prices are maintaining at very nearly the same levels as previously mentioned. Prices for the Middle Western fields as taken from the "Black Diamond" are as follows:

Southern Illinois, including Saline, Franklin and Williamson Counties, domestic sizes, $3.60 to $3.85; mine run, $3 to $3.50; screenings, $2.25 to $2.85; steam sizes, on contract, $2.60 to $3.65.

Indiana fields, prepared sizes, $3 to $3.50; mine run, $2.25 to $2.50; screenings, $1.60 to $2.50.

Central Illinois, domestic sizes, $3.25; mine run, $2.50 to $2.75;

Spring Valley, six-inch chunks, $4.50 and $4.75; on contract, $4.25; washed screenings, on contract, $3.85.

The above prices are those asked on the Chicago market.

Coal prices in the Columbus, Ohio, market are well maintained in spite of the depressed market. Hocking lump is $3 to $3.50; Hocking mine run, $2.50 to $3; Hocking nut, pea and slack, $1.75 to $2 f. o. b. mines. Some large users have been in the market for a limited amount of steam coal at $1.50, but they had difficulty in getting the $1.75 price shaded.

* * *

Revising Building Codes in Favor of Brick

Information which is of interest to the brick manufacturers of the country is contained in the May issue of the Monthly Digest of the Common Brick Manufacturers Association, containing information of the month of April. Reports from the members of the association show that prices of common brick thruout the country are still being liquidated. A composite price taken from the reports of 142 members on February 1 gave the figures of $18.05 per thousand; from the reports of 132 members on March 1, $17.40 per thousand; and the composite price of current reports from 126 members reduces the figure to $16.97 per thousand.

Manufacturers in other cities have often been asked why they could not duplicate the low price of Chicago commons, which at present is $12. Chicago common brick are cheapest of any in the country for several reasons. Efficiency has been brought up to its highest point and, due to the exceptional plasticity of the clay the capacity of the machines has been brought up to 300,000 daily in some cases. The brick can be burned at a considerable saving, ten to twenty hours firing is sufficient to complete a burn.

A general increase in construction activity is evident in the country and where the March Digest showed 115 plants closed the last report shows but eighty-four down. The shortage of homes has been in a manner instrumental in causing a revision of building codes in many cities, in favor of brick. Where the twelve-inch wall has been prescribed for two-story dwellings the ordinances have in many cases been changed to permit of eight-inch construction. Milwaukee, Buffalo and Worcester recently made this change. The Ideal Wall, or brick hollow wall, is also gaining recognition from many cities and a marked increase in common brick sales may be expected by popularizing the use of this wall.

* * *

U. S. to Build 35,000 Miles of Highway

The road building and street paving field has made important advances, it was disclosed at the second annual convention of the Asphalt Association held at New York city, April 13, 1921. The speech of the president, Joseph R. Draney, of the United States Asphalt Refining Co., New York, brought forth some figures which should fill with optimism the hearts of all who are connected with the paving industry.

Approximately 35,000 miles of new highways will be constructed if the plans of the Federal government, the states and counties are carried out. 700,000 men will be needed in the building of these new highways and probably 300,000 more will find employment in the quarries, gravel pits, cement, brick and asphalt plants and other factories manufacturing paving materials or machinery. Mr. Draney pointed out that the road building boom will greatly benefit the railroads by bringing into service 100,000 idle freight cars to transport 100,000 tons of road materials.

The association is now advocating measures which will increase activity in road building, make for fairer and more wholesome competition by divorcing highway management from politics, and eliminate to a great extent unnecessary expense and waste in highway construction.

* * *

A. S. T. M. to Meet in New Jersey

Asbury Park, N. J., has been selected as the place where the twenty-fourth annual meeting of the American Society for Testing Materials will be held. A number of papers of interest to clay men will be read at the meeting. On Wednesday, June 22, at 8:00 P. M., S. H. Ingberg will present a paper on "Fire Tests of Building Columns". On June 23 at 9:30 A. M. the following committees will report: Committee on Brick, H. T. Shelley, chairman; on clay and cement sewer pipe, R. Hering, chairman; on drain tile, A. Marston, chairman; on refractories, W. H. Fulweiler, secretary; on hollow building tile, W. A. Hull, chairman. At 3:00 P. M. on this day will also be read a paper on "Method of Determining the Tensile Strength of Porcelain," by F. H. Riddle and J. S. Laird.

* * *

Bulletin on Distributing Overhead Expense

A new bulletin issued by the Fabricated Production Department of the Chamber of Commerce of the United States, is one worth having on hand. "Overhead Expenses—How to Distribute Them in Good and Bad Times," is the title of the pamphlet, which clay product manufacturers are urged to read.

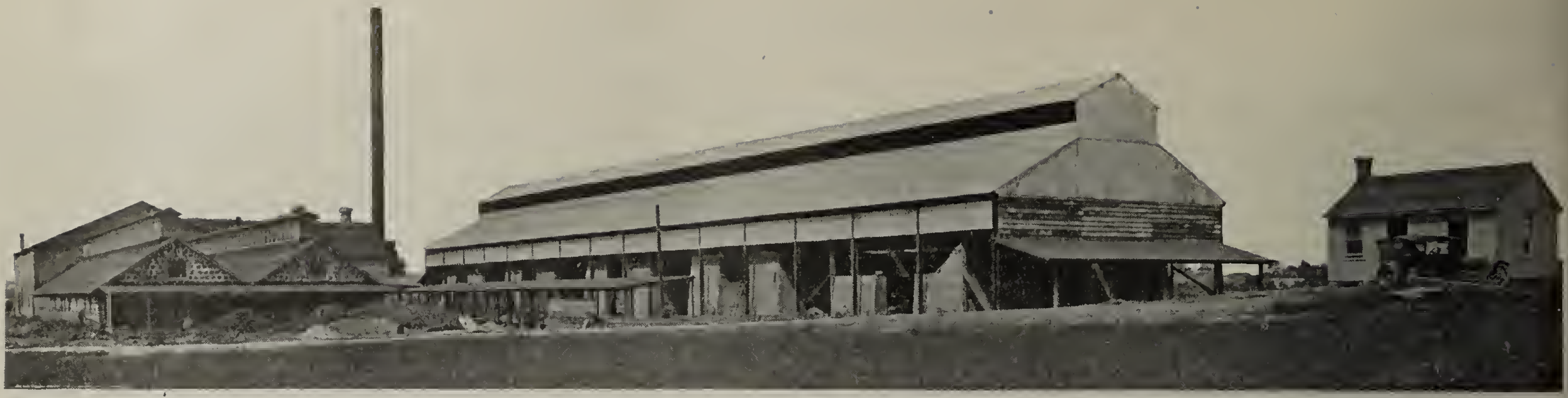


Fig. 1. General View of the Lancaster (Pa.) Brick Plant. The illustration Gives a Good View of the Kiln Shed and Updraft Kilns.

A LATE MODEL PLANT *for* SOFT MUD BRICK PRODUCTION

Systems and Equipment That Conform to Latest Methods and Mean Efficient Production According to Ideas of Eastern Clay Products Concern

BRICK PRODUCTION offers interesting contrasts. The age of the industry allows an illuminating comparison between ancient methods of manufacture and those in vogue in later periods. And today, the same possibilities exist, for only a few miles apart in different sections of the country may be found brick plants quite unlike in features of production and attainment, yet all engaging to the same ultimate end—the manufacture of building brick.

This dissimilarity is not only to be found in machinery, equipment, methods of operation and other phases of work, but fundamentally in that for which all manufacturers should strive, namely—efficiency; an overworked word, to be sure, but one which carries a broad significance in all final calculations.

It need hardly be said to those who seek the best in manufacturing results, that antiquated methods will not give the same satisfactory attainments as modern means, nor will old, worn-out rebuilt and revamped machinery produce the same efficiency as late, perfected equipment. We advance with time, knowledge and understanding. When you reduce efficiency in plant operation, you reduce profits, and in this day when commercial success is so essential for individual and national progress, it is natural

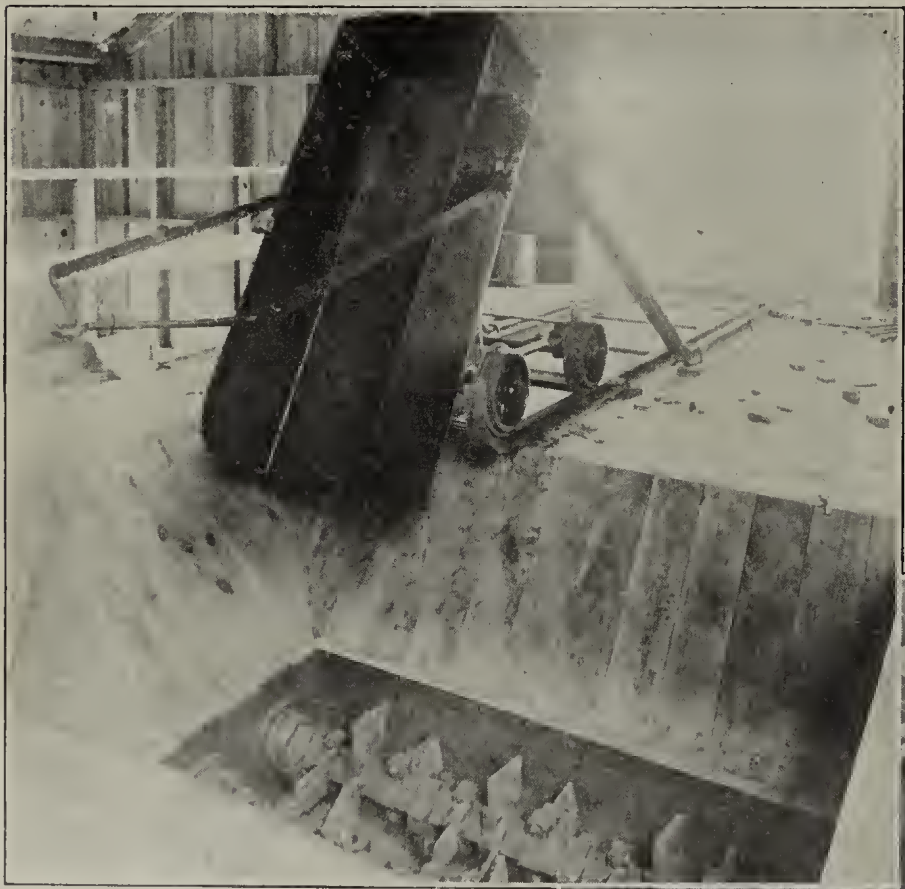


Fig. 2. Above—System of Automatically Unloading the Cars into the Granulator. The Cars Start Down the Track of Their Own Accord.

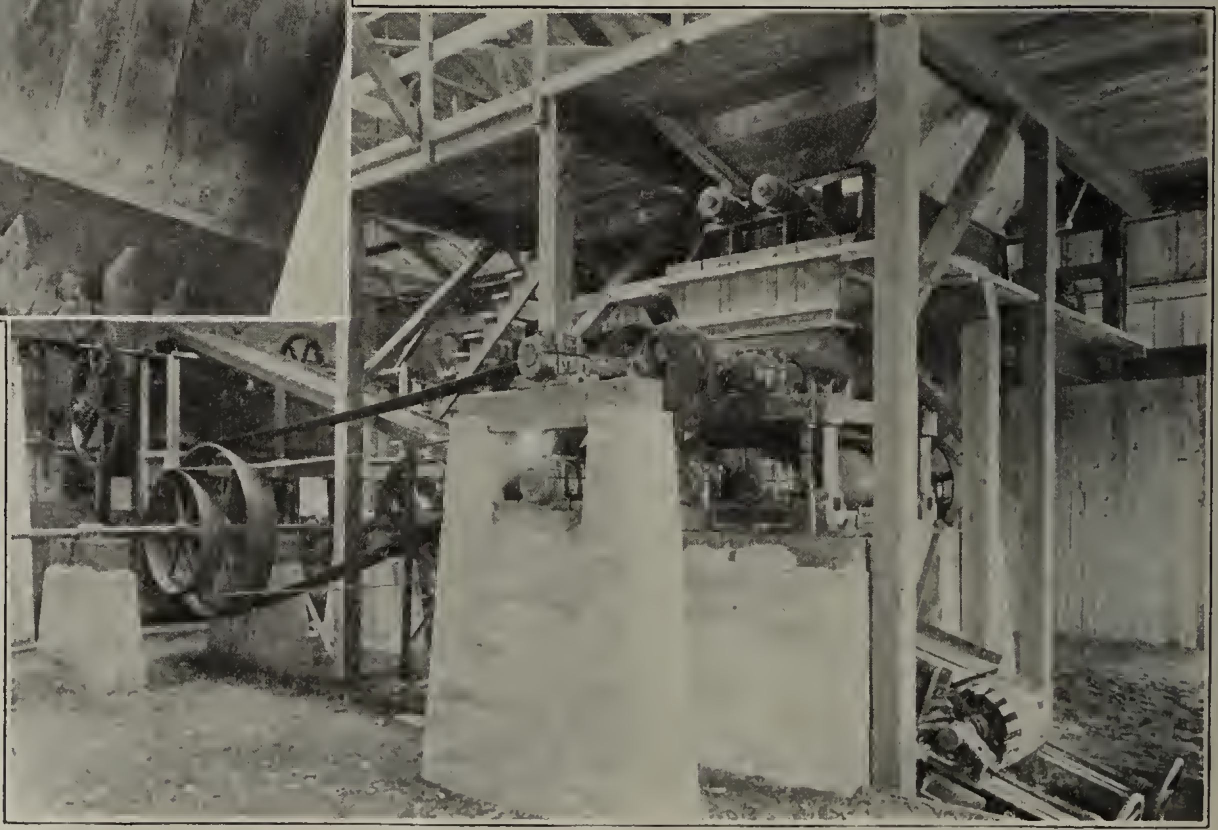


Fig. 3. On the Right—A View of the Granulator and Grinding and Crushing Machinery. Conveyor Taking the Clay from the Crusher Can be Seen Near the Center of the Picture.

that the really efficient, up-to-date brick manufacturing plant is the one that carries the greatest interest and greater susceptibility for inspiring valuable ideas and suggestions for those in the industry.

The plant of the Lancaster (Pa.) Brick Co. embodies many new ideas in brick manufacture that commands every clay plant operator's interest. Every feature of operation, whether primary or auxiliary, has been given the same careful attention, and both equipment and methods of production are of latest type and spirit in every respect. A plant of this character is nothing short of a delight to the brick man, for it visualizes in actual working the ideal conditions of manufacture, so far as we know today, that often flashes as a picture in the mind.

ONE HUNDRED PER CENT. MODERN

The natural beauty of the site, as well, lends an enchantment, if such a term may be permitted, to this institution for nestled in the heart of the rich farming district of Lancaster County, the eye, no matter where it may be cast, reflects a picture that nature only is capable of creating. For miles and miles around are magnificent farms, dotted everywhere with productive cultivation. On the north, the property is bounded by the Little Conestoga Creek, a stream that adds to the picturesqueness of the immediate surroundings. It is not often that a brick plant can be found in such a selected and invigorating environment.

A BIT OF HISTORY

The history of the Lancaster Brick Co. can be written in a few lines. It was organized in 1919 by officials of the Lancaster Iron Works, Inc., and other industries in this section, under the direction of James P. Martin, manager of the Clay Working Machinery Department of the iron works company. Ground was broken for the plant early in January, 1920, and production was inaugurated in May.

With this affiliation of interests, it is but natural that such machinery and apparatus for clay working as produced by the indirect parent company should be utilized in the plant, and unless otherwise noted, the main equipment, as well as auxiliary operating devices referred to in the following is of this type.

The brick plant, while designed for practical, efficient production and not as a "show place," might well be termed in this latter category, for it is laid out with a thought to future expansion, and with permanency of construction and installation predominating everywhere.

GENERAL OPERATION

A general view of the brick plant is shown in Fig. 1, which sets forth the features of permanent construction, just mentioned. The plant is designed to operate under the well-known soft-mud, sand-molded process of production. Brick properly produced under this system have square corners, well-defined edges and smooth faces, with necessary density in composition. The attractiveness of the brick is enhanced by a sanded face, with an added advantage of making a strong, bonded wall thru full uniting with the mortar joints.

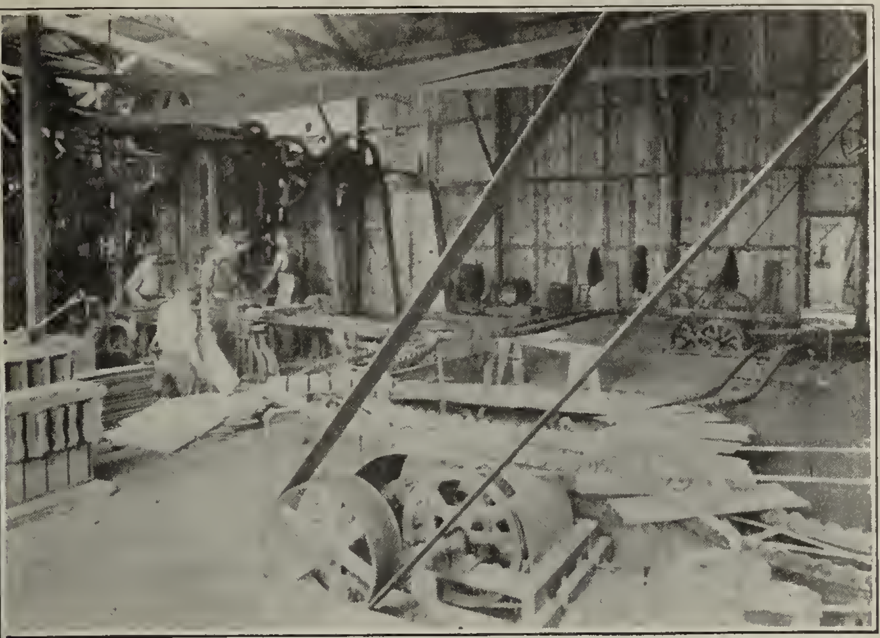


Fig. 5. View of the Brick Manufacturing Room Showing the Pallets of Brick as They Travel Down the Gravity Conveyor from the Brick Machine.

Fig. 4. The View on the Left Is the Inclined Track Leading into the Pit.

The equipment installation provides for a capacity of 50,000 brick per day, or with an average of 300 days operation per year, an annual output of about 15,000,000 brick.

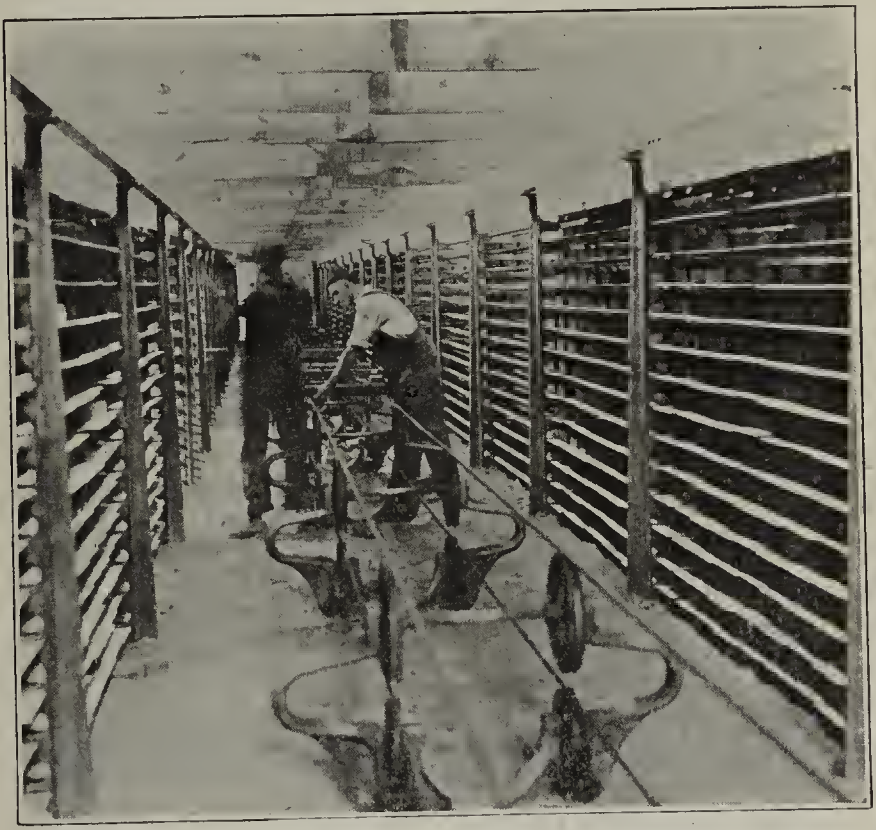


Fig. 6. A Gravity Conveyor Carries the Pallets of Brick to the Rope Conveyor Which Delivers Them to the Steam Pipe Drying Racks. The Empty Pallets Are Returned on the Bottom of the Conveyor.

The plant location is on the outskirts of the city of Lancaster, with total company holdings of approximately forty-seven acres of clay lands. The clay deposits are of common, short-grained variety, overlaying a strata of limestone rock. The clay extends for a depth of from ten to fifteen feet, and estimating that an acre of clay of this depth will produce on an average of 15,000,000 brick, the company, under present plant capacity, as noted, has a supply of raw material available for over forty years to come. The clay shows a high percentage of oxide of iron, thereby lending itself admirably to a burned brick of dark, cherry red color, and of exceptional strength.

CLAY MINING AND DELIVERY

The clay is mined by means of an electrically operated shovel, of Thew manufacture, Type 00. This shovel allows utmost facility in operation; the bucket with one-half-yard capacity, has a full swing so that the clay can be excavated from any angle for discharge into the clay cars. It is operated by one man, with power equipment consisting of a twenty-five-horsepower motor. Electric energy for this service is generated at the power plant at the yard, and transmitted to the shovel by a portable, fully insulated wire cable.

The inclined track shown in the picture leads to an elevated floor in the plant. This track is thirty-six-inch gauge, formed of galvanized ties and thirty-pound rails.

The clay is loaded direct from the shovel bucket into dump cars of two-yard capacity each, and provided with automatic end dump. The cars are of all-steel construction, with very heavy wheels, and operate in a particularly novel and effective manner.

The cars are hauled up the inclined track by means of the wire cable, running midway between the rails, over idler guides, as will be noticed. This cable is attached to a winding drum on the elevated floor of the machinery building. The hoisting equipment is powerful, yet simple; it is provided with friction clutch and lever control of double-safety type, eliminating any possibility of ordinary accident to the operator.

CARS DISCHARGE LOAD AUTOMATICALLY

The point of discharge of the cars, near the entrance of the elevated floor, is set forth in Fig. 2, showing the car in position as it delivers its load to the granulator. This discharge is automatic, requiring no hand labor or guidance whatever, and is accomplished by means of special curved guide rails on the platform floor, and idler wheels attached to the sides of the car body, as indicated in the illustration.

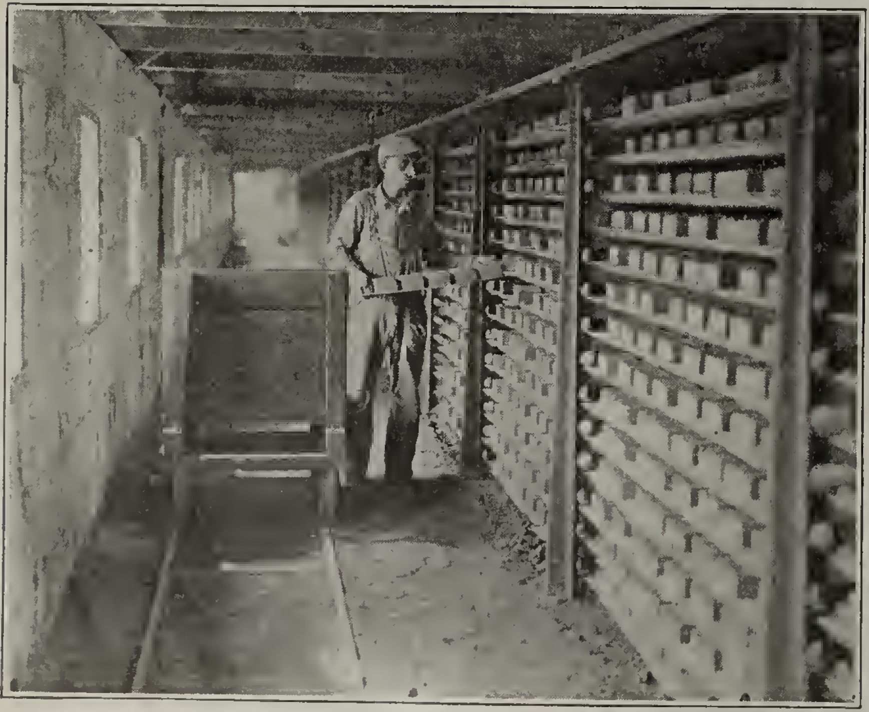


Fig. 7. Taking Brick Pallets from the Dryer Preparatory to Setting the Brick in the Kiln.

The operation is very simple; as the car reaches the point of delivery, the idler wheels engage with the curved guide rails. This action causes the automatic tipping of the car body, lifting the rear end from the truck, with immediate discharge of contents.

The operation is rapid and positive; as soon as the load is emptied, gravity causes the idler wheels to return the car body to its regular position on the truck, providing, at the same time, the necessary momentum to start the car on its return trip down the incline to the clay bank. As in the case of the unloading, no labor or assistance is required for the latter operations. The car rails at the terminus, or edge of the granulator bin, are curved, as will be noted in the illustration, serving as a bumper for the discharging work.

The efficiency and economy of this method of hauling clay from banks to plant is self-evident. The labor saving is distinctly noticeable, for up to this point of the work but two or three men are required, including those working at the clay bank.

CLAY MIXING EQUIPMENT

The granulating clay feeder, shown in the illustration, Fig. 2, is a strong, powerful machine, capable of operation under small-power requirements. It is designed, primarily, as a labor-saving device, making for particular efficiency in feeding the clay to the crusher. The top of the hopper, when the machine is in service, is covered with a heavy iron grill work; as the material is discharged from the clay cars, a workman stands by to force the large pieces of clay thru this grill floor as will not pass unaided. The equipment practically forms the bottom of a clay storage bin, and the hopper has a capacity of several carloads of material.

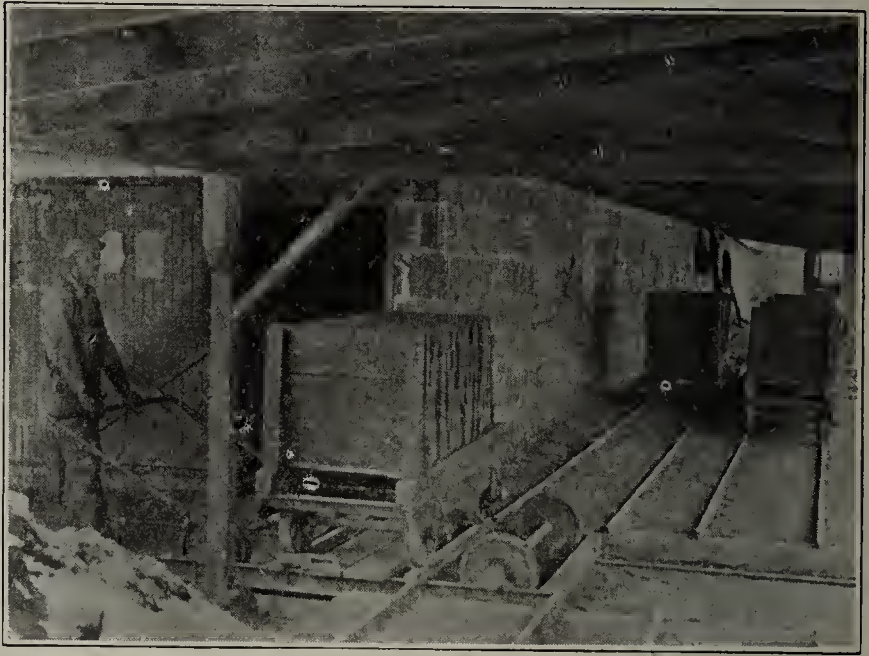


Fig. 8. A Car of Dried Brick on Its Way to the Kiln. Note Double Track System to Take Care of Empty Cars.

The granulating clay feeder is a double-shaft machine, consisting of a series of knives attached to four-inch steel shafts, and rotating in opposite directions. It breaks up the large lumps of clay rapidly, and thoroly mixes the different ingredients of sand and clay as they come from the banks, and which, incidentally is a matter of no small importance in high-grade brick manufacture. The feeder automatically handles the clay from the bottom of the clay storage, and in brief, does the preliminary work in a dry state of a pug mill. The shafts and knife arrangement will be clearly noted in the picture.

METHOD OF CRUSHING CLAY

Another view of the granulating clay feeder, exterior, will be noticed in Fig. 3, which shows an interior picture of the machinery room at the plant, with arrangement of granulator, crusher and endless belt leading to the pug mill.

The clay is discharged automatically by the granulating clay feeder into a compound distintegrator and crusher, of four-roll type. The two upper rolls form the disintegrator, and the two lower rolls comprise the crusher. This machine is a development of the "Parry" crusher, and familiar to many brick manufacturers.

The machine rolls operate at different speeds; the fast roll of the disintegrator is provided with heavy bars formed of crown razor steel, and is constructed with substantial flange to prevent the spilling of any clay from the side of the machine. The smooth rolls are fitted with heavy sectional tires, cast in chills; the bearings are fourteen and one-half inches in length, ring oiling type.

As the clay reaches the compound disintegrator and crusher, it is ground to a uniform fineness, and is then delivered to the pug mill on a steel frame conveyor, equipped with a twenty-four-inch Leviathan conveyor belt. The conveyor is of drag belt type, simple in operation and rendering highly satisfactory service. This endless belt, extending upwards to the brick partition wall, will be noticed in the illustration, Fig. 3.

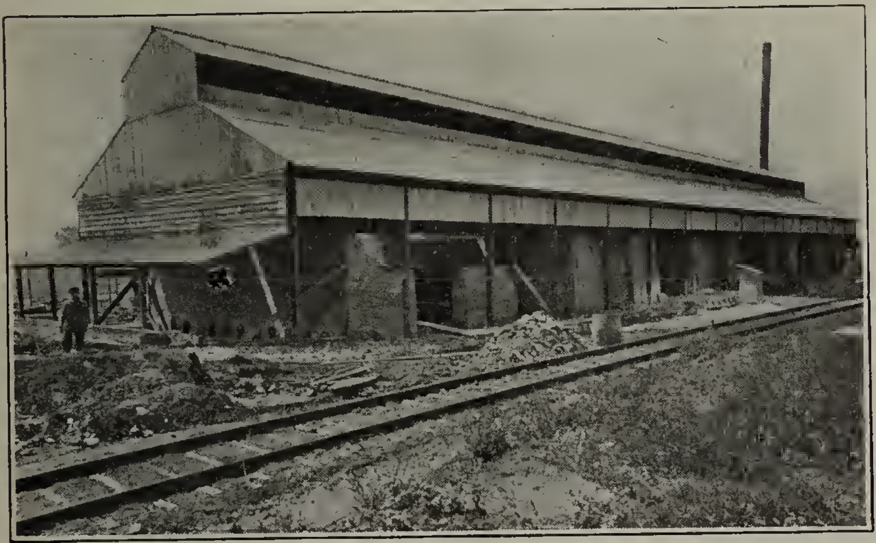


Fig. 9. An Exterior View of the Updraft Kilns. Conveniently Located Near the Railroad the Brick Can Be Loaded Directly Into the Cars. Motor Trucks Are Used for Local Delivery.

UNIFORM GRINDING IS AFFECTED

The conveyor frame, as well as all other equipment in this and different departments of the plant, is of rigid, substantial construction, and quite in contrast to that found in older brick yards. The lack of vibration and stability afforded is distinctly noticeable.

At the extreme right of the illustration, at the end of the conveyor frame in the machinery room, will be noticed a take-up and spider pulley. The steel machine screws allow for the regulating of the belt at proper tension, operating heavy take-up bearings. The spider pulley, of strong construction, prevents the accumulation of clay under the belt. All line shafting and counter shafting are formed with substantial bearings, mounted on concrete piers, as will be seen.

BRICK MAKING DEPARTMENT

Fig. 5 shows the brick-making department, and gives a comprehensive idea of the effectiveness of the arrangement, with room and facility for the operatives, and compact machinery installation.

The brick machine, direct-connected to the pug mill, is a development of the Martin type machine. It is a strong, heavy soft-mud brick machine, equipped with automatic self strike. It is said to have a capacity of 108 brick per minute, operating at a speed of eighteen molds per minute, each mold containing six brick. The brick machine and pug mill are provided with friction clutches, permitting independent starting gradually and stopping instantly.

Referring again to Fig. 5, a few words regarding operation will be interesting. Five men are required for the entire brick manufacturing and conveying operations in this department. As the brick molds are delivered by the brick machine, the brick are dumped from the molds on steel pallets, which are placed on improved type iron and steel dumping tables, located at the side of the brick machine. Six brick are moved on a single pallet. The pallets leave the dumping tables automatically on a Matthews gravity carrier system, which conveys them to different parts of the dryer department. The entire arrangement, as outlined, will be understood from a careful inspection of the illustration.

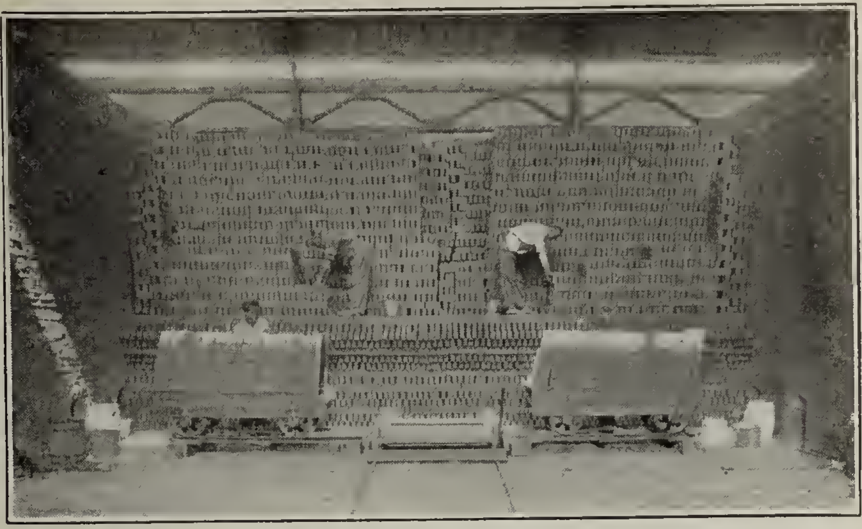


Fig. 10. Interior of a Kiln Showing Method of Setting the Brick. The Brick Are Set Forty-Two Courses High.

CABLE CONVEYOR SYSTEM—DRYING EQUIPMENT

Views of the dryer room are shown in Figs. 6 and 7. The first noted picture, Fig. 6, gives a complete idea of the method of handling the brick pallets as they reach the operatives in this department on the carrier system. At the entrance to the dryer department, the carrier installation in the brick-making room makes connections with a cable conveyor system, of the character as shown in Fig. 6.

This cable conveyor is of rigid, permanent type; the stands and sheave wheels are trued to a nicety, allowing precision and ease in operation. The speed of the conveyor is regulated to suit two workmen, each alternately taking a pallet from the carrier and placing it in the racks, as set forth in the illustration.

The under side of the cable conveyors is used for returning the empty pallets to the brick-making department, connecting with the gravity carrier arranged for this purpose, and so reaching the pallet boy. The illustration of the brick-manufacturing room, Fig. 5, shows readily this phase of operation. The automatic features of the work, also, are easily discernible, with great economy in labor saving.

USE RADIATED HEAT SYSTEM OF DRYING

The dryer system consists of what is commonly known as a steam pipe-rack brick dryer. The principle involved is that of conduction or direct radiation of heat. This radiation comes from the steam in the pipes, being conducted thru the pipes and pallets into the brick. The drying racks at the plant have a capacity of well over 50,000 brick.

The drying time is twelve hours, and it is interesting to note that in this period the system as installed has a capacity for evaporating twenty-five tons, or 6,250 gallons of water, based on the estimate of each brick containing one pound or a pint of water. This type of dryer is quite efficient for economically handling and drying soft-mud common brick.

The steam is circulated by means of an automatic vacuum system operating at low pressure, with not over ten pounds of steam in use on the dryers at one time. The installation totals 40,000 feet of one-inch steel pipe, comprising the racks or shelves of the dryers. These steam pipes are supported on heavy substantial cast iron racks, spaced at eight-foot intervals, and joined together with steel purlins tying into the gable walls of the dryer building at either end. The steam distribution to the steam lines is by an improved heavy type construction manifold system.

Referring to Fig. 6, the substantial construction of the racks, with iron upright supports, is plainly shown, as well as the general features of the installation. The ends of the racks are constructed to allow for expansion and contraction in the pipes.

TAKING GREEN BRICK TO THE KILN

The dryer is emptied and filled every day. The brick which are dried during the night are removed on the day following by the setting gang, comprising six car men and two setters. The work has been so perfected that the setting crew works ahead of the men filling the dryers with new made brick; in other words, closely following the removal of the green material, ready for the kiln, the empty space on the racks is again filled with new brick to be dried during that night. The two crews work on opposite sides of the racks, so there is no possibility for interference or delays.

The setting gang removes the pallets, as set forth in Fig. 7, edging the brick, six high, on a roller-bearing dry brick car. The empty pallet is returned to the pipe shelf to be placed later on the under side of the cable conveyor, or returning cable, by the men who are loading the dryer with newly made material.

The dry brick cars are of the type shown in Fig. 11. They have a capacity of 500 brick per car, and operate between the dryer and the kilns on an industrial railway system. Transfer cars are used to shift the dry brick cars from one track to another while en route to and from the brick kilns.

The transfer cars are also of roller-bearing design, with general construction as will be seen in the illustration just mentioned, Fig. 8. The pipe handle, here shown with operation in position, is of lift character, and when raised, automatically brakes the car. This is not only a great convenience in operation, but an excellent safety precaution.

DOUBLE TRACK SYSTEM

From Fig. 8 will be noted the double track industrial railway line under the shed adjoining the dryer building. This system allows for one track to be used for cars moving to the kiln, and the other for "empties" returning from the kilns. Under such a plan there is no trouble or stopping in operation, nor any interference or blocking thru cars, full and empty, operating on a single track.

A general view of the kiln shed is set forth in Fig. 9. This building is of structural steel type, with corrugated asbestos roofing. It is of continuous character, covering the entire five kilns at the plant and up to date in every particular.

The kilns are of the type commonly known as "Pennsylvania Dutch" brick kilns. They are of up-draft, rectangular type, each kiln having twelve arches, with capacity of 230,000 brick. The kilns are constructed of approved design, being formed with extra heavy kiln walls, set on deep concrete foundations.

The brick are set forty-two courses high, as indicated in the illustration, Fig. 10. This picture also sets forth an interesting view of the method of handling the dry brick cars at the kiln, with portable track arrangement to allow the use of two cars, each bringing material for one of the setters and transfer truck for ready shifting, as necessitated.

HAVE 100 HORSEPOWER CORLISS ENGINE

The material is burned in about four and one-half days, requiring about forty tons of coal to burn off each kiln.

The company has its own railroad siding at the plant, leading from the Pennsylvania Railroad lines which adjoin the property. This allows for efficient handling of coal and other materials, as well as shipments from the yard.

The power plant consists of two 150-horsepower horizontal return tubular boilers of Erie type, and a 100-horsepower Corliss engine, used for driving line shafting and other auxiliary plant service. The installation also includes a small engine for furnishing power for the operation of an electric generator, and to the pumps for supply water to a large storage tank system.

The company has its own pumping station, electrically operated, giving fine, clear spring water for service at the plant. The fuel consumption at the plant for power generation and for brick burning is about one-half ton of coal per 1,000 brick.

The plant is provided with a small machine shop, where mechanical and repair work can be handled under utmost speed and efficiency.

BRICK DELIVERIES

This article would not be complete without brief reference to the fact that brick deliveries are made by means of motor trucks. The company has two cars operating continually, of Autocar manufacture, and equipped with Fontaine bodies for automatically handling units of brick on the trucks and delivering to the job.

Located, as mentioned, away from the city center, the brick plant has constructed its own private road of Tarvia, leading from the nearest thorofare, about one-half mile distant. This permits utmost facility in the motor-truck operation, and up to the present time, practically the entire plant output has been utilized in the immediate city districts.

* * *

Paving Brick Receives Federal Consideration

Unbiased consideration of paving brick on a rolled base as an ideal road factor, and possibly elimination of the costly specifications that would put brick paving out of competitive bidding where federal aid for road construction might be sought, seems assured in the fact that investigation of paving brick on rolled base is at last being conducted by the Bureau of Public Roads of Washington. These investigations have been conducted in Ohio under direction of Messrs. Goldbeck and Jackson, assisted by George Meyer, engineer of the Ohio Paving Brick Manufacturers' Association of Columbus, and President O. W. Renkert, Vice-President Will P. Blair and Secretary Maurice B. Greenough, of the National Paving Brick Manufacturers' Association, Cleveland.

Bureau representatives have not committed themselves as to their findings, but they have hinted sufficiently to indicate a favorable attitude that will go far toward substantiating the evidence previously placed by the national association with the Bureau in the interest of the paving brick manufacturers, to the end that rolled base brick pavements are likely to receive more favorable consideration.

* * *

Plan Pacific Coast Section of A. C. S.

Important developments in the ceramic industry on the Pacific coast are predicted. Leading men of the industry on the west coast are now participating in a movement to organize a Pacific Coast section of the American Ceramic Society. It is believed that organization of the section will bring the coast states into a position of leadership in the society. If just a part of those who are contemplating erection of factories in Southern California carry out their plans the clay industry in that section will show considerable expansion.

BUILDING COMMISSIONERS SEE TESTS *on* IDEAL WALL

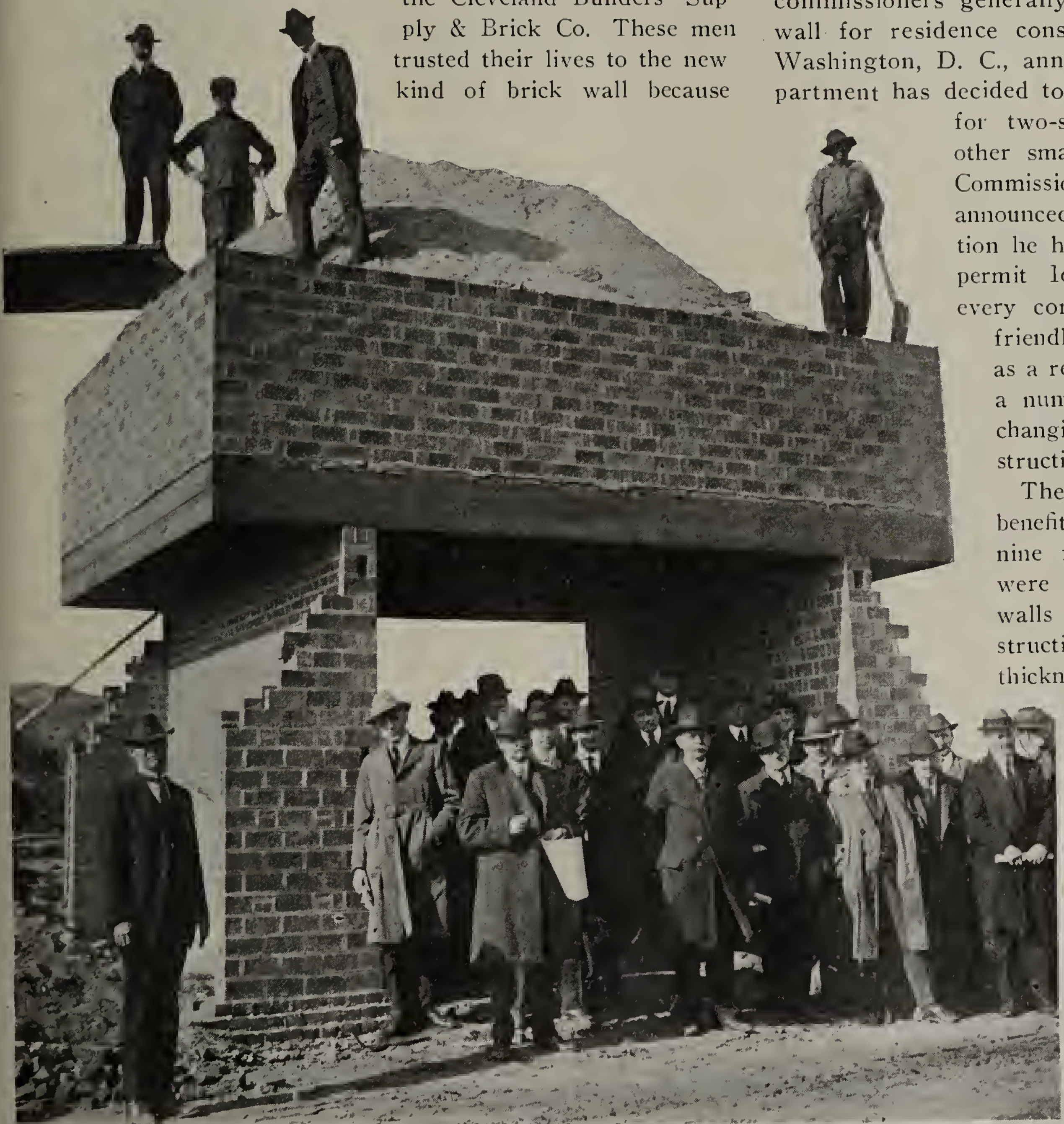
Practical Demonstration of Brick Hollow Wall Livest Topic of Discussion at Cleveland Annual Conference of Country's Building Officials

By Ralph P. Stoddard

Secretary-Manager Common Brick Manufacturers Association of America

THE BUILDING COMMISSIONERS of the United States, in an unofficial way at least, have given their approval to the new Ideal wall construction. At any rate if they did not approve it, they expressed confidence in it, as is shown by the accompanying picture.

During the annual conference of the building officials of the country, held at Cleveland, Ohio, on April 27, 28 and 29, about sixty commissioners representing leading cities all the way from Boston, Mass., to Portland, Ore., witnessed a practical test of the wall made at one of the plants of the Cleveland Builders' Supply & Brick Co. These men trusted their lives to the new kind of brick wall because they walked around it and under the tremendous load of brick and sand which was supported by the walls.



The Test of the Brick Hollow Wall Shown in the Illustration Was a Complete Success. Over Eighty-Three Tons Were Supported by the Walls. The Men in the Picture Are Building Commissioners from All Over the Country.

COMMISSIONERS FRIENDLY TO "IDEAL WALL"

The Ideal wall became one of the livest topics of discussion at the conference and many commissioners stated on the convention floor that they either had accepted this wall in their codes or were willing immediately to do so and invited fullest information from the Common Brick Manufacturers' Association regarding this new construction. The commissioners generally heartily approved of this type of wall for residence construction. Commissioner Healy, of Washington, D. C., announced at the meeting that his department has decided to permit the use of this construction for two-story dwellings, private garages and other small structures of a similar character. Commissioner Sherman, from Worcester, Mass., announced that before coming to this convention he had caused his code to be amended to permit Ideal wall construction. Practically every commissioner in the meeting showed a friendly attitude toward the Ideal wall and as a result of the demonstration in Cleveland a number of codes are now in process of changing to open the way for Ideal construction.

The test walls erected especially for the benefit of the building commissioners were nine feet in height, twelve feet long and were spaced twelve feet apart. The two walls represented four different types of construction. Both walls were eight inches in thickness. One-half of one wall was Ideal all-rolock, with full headers; on the other half of the same wall were substantial bats for a portion of the headers, reducing the number of headers about fifty per cent. One-half of the opposite wall was Ideal rolok-bak with the front course of brick laid flat and headers every third course. The other half of this wall was of the same type with headers every sixth course.

WALLS CARRIED EIGHTY-THREE TONS

The test was designed by V. D. Allen, of the engineering concern of Osborne & Allen, Cleveland. Mr. Allen, a former building commissioner of the city of Cleveland, states that the weight of the load upon the base of these walls was a fraction over eighty-three tons and that the walls were carrying a load about equal to the total weight of a five-room two-story house. He estimated that the factor of safety in the test was a fraction over three and that the walls would carry fully four times the load imposed upon them. There was absolutely no evidence of stress whatever at any point in the wall supporting the load. The brick work was minutely examined by the building commissioners and no one could find the slightest sign of stress.

BUREAU OF STANDARDS ALSO MAKING TESTS

The parapet wall retaining the sand was the twelve-inch Ideal all-rolok wall, four feet in height. This test was intended to demonstrate the remarkable strength of this wall for foundation work. Sand was piled into this box enclosure until it rolled over the sides and the engineers admit that this was a much more severe test than basement walls would be subjected to, since the pressure was applied on the inside of the wall instead of the outside, as it is in actual practice.

The result of this test causes the Common Brick Manufacturers' Association to recommend without hesitancy the use of the twelve-inch Ideal all-rolok wall for foundations for two and a half or three-story buildings.

The tests of Ideal wall both for compression strength and for fire resistance are going forward at the Bureau of Standards. While no official information has yet been given out, the Common Brick Manufacturers' Association representative who has watched the tests states that he is thoroly satisfied with the results so far. As soon as the Government officials give their report of these tests a nation-wide campaign for the changing of building codes will be inaugurated, so that the Ideal wall may be taken advantage of by the home builders everywhere.

In many places in this country today houses are being built with Ideal walls at a cost less than ordinary frame construction. Bricklayers after a few hours on the new wall are laying from 850 to as high as 1,500 brick per day. The eight-inch Ideal all-rolok wall as compared with the solid brick wall saves one-third the brick, one-half the mortar, one-fourth of the labor and furring and lath, which makes the total cost one-third less than solid wall of the same thickness.

It is the strongest and driest hollow wall ever conceived and is destined to revolutionize residence construction in America, according to many building experts who have thoroly investigated it.

AWAIT POST-WAR FREIGHT RATE ADJUSTMENT *to* REFLECT EFFECT *on* BUILDING COSTS

PERSISTENT CRUMPLING of the building material and equipment industries despite price cutting and the presence of the building season that was expected to bring at least thirty-five per cent. of a normal year's construction movement is bringing into sharp relief the influence of war-time freight rates upon a peace-time construction market, says the Dow Service daily building report of May 7, 1921.

In the normal turn of events freight rate readjustments for general commodities will eventually be brought about, but building construction being a seasonable industry (and the 1921 season toward which the eyes of the nation had been turned in the hope of effecting a marked alleviation of the housing shortage is rapidly passing) is actually in danger of sinking into an acute situation financially unless prompt special action is taken to give construction commodities easier rail-way into the nation's construction market.

Since the beginning of the war the cost of transportation of building materials has been increased 140 per cent., the cost of transporting fuel has been increased 300 per cent. and coastwise freight rates have been increased to levels higher than the all-rail rates.

ONLY ESSENTIAL BUILDINGS BUILT IN 1918

In June, 1918, the freight rates in building materials were increased on an average of fifty per cent., while freight rates on other commodities were increased on an average of twenty-five per cent. This order followed that of October 2, 1917, when Judge Lovett issued Priority Order No. 2 denying the use of open-top cars for the transportation of building materials. Secretary McAdoo in the spring of 1918 urged that all but "necessary" building be stopped. The classification applied to buildings essential for the winning of the war. These orders culminated in the order of October 8, 1918, cancelling permits for the movement of any building material in order to provide for the shipment of coal to the Northwest. This order lasted, however, only about two weeks.

But on August 26, 1920, there came another freight rate advance and on August 9, the Dow Service daily building reports warned that such another burden placed upon the building industry would eventuate into a condition of stagnation similar to that artificially produced in the building industry by the orders just referred to shutting the speculative builder out of the market. The freight rate increase became effective, however, whereby an additional increase of forty per cent. was added to the already excessive freight rates building materials were carrying from mill to consumer. Today the speculative builder, that factor which, if given a fair chance would quickest solve the national housing problem, is effectually forced out of the building industry. He will continue to be an absentee construction factor until freight rates are lifted from the war-time basis and placed upon a peace-time plane.

FREIGHT RATES GREATEST RETARDING FACTOR

The purpose of these orders and freight rates greatly in excess of the freight rates applied to other basic commodities, was primarily to retard, indeed, to actually stop, all except building actually required in the service of winning the war. With peace-time conditions prevailing to all intents and purposes these freight rates still being permitted to remain in full operative force constitute the most glaring anachronism of the day, one that is helping mightily in depriving the American people of adequate shelter.

Building material price cuts continue to be made in many departments. Reductions are reported in this week's record in face brick, hollow tile, second-hand brick, sheets and metal lath. There is no base to the last-named item, that department and the sand market being in the throes of a competitors' war with prices little or no object. The glass situation is apparently coming out of such an entanglement altho the market is still rather ragged.

Some items show a slight turn upward, but they are not yet numerous enough to indicate any general market tendency in that direction. Buyers are waiting for some definite evidence that the still remaining post-war economic adjustments will soon be accomplished and the lowering of existing freight rates is one of them.

* * *

Literature on Ideal Wall Being Distributed

Both the advertising and technical literature for the new Ideal wall has been prepared by the Common Brick Manufacturers Association of America. This literature is available to all thru the member manufacturers of the association.

A four-page circular illustrating various types of the wall, showing a home built in "all rolok" type and a description of Ideal construction, is free to all who want it, and may be had from the association office, 1300 Schofield Bldg., Cleveland, Ohio, or from any member manufacturer.

The eight-page technical folder, giving full details and drawings, illustrating the various types and thicknesses of wall, the placing of joists, roof timbers, window and door frames, and railing grounds, is distributed exclusively thru the member manufacturers.

Every architect and builder may get a copy of this valuable literature from his nearest brick manufacturer who is a member of the Common Brick Manufacturers Association of America.

* * *

Advises Manufacturers to Stock Coal Now

Reports received from a number of brick men in the vicinity of Louisville, Ky., concerning the fuel situation indicate that many of them are stocking enough coal to take care of at least ninety days production in event that a temporary shortage develops later in the season and forces prices up. It appears to be the concensus of opinion among some brick men that the market is not likely to advance more than fifty cents a ton over present prices before fall, if then, altho some small advances mav be made in June.

It is claimed that a stock of coal that will carry the operator of a clay-burning plant ninety days will enable him to take advantage of the present low market for stocking, after which period he may allow his stock to stand untouched and continue buying coal for current needs, until such a time as any rapid market advances make it advisable to begin using from his yard stock. It is felt that advances will be but temporary, during periods of special rush, when demand is greater than supply, and there are not enough cars to move coal in demand.

One of the interesting features of the present coal movement is that it is heavier than generally supposed, as the coal man is always pessimistic and complaining about poor business. Retail coal men are taking advantage of the present low market, and ability to secure fuel, to stock their yards, something that they have not done for several years, due to the fact that they could not secure enough fuel for stocking, and due to the fact that prices were so high that they were afraid to take chances with stocking on a high market, which might be broken later by reduced demand, larger car supply and generally freer movement.

The writer, in discussing the situation with coal men, discovered that one retail concern which has not carried any stock for some years past, other than a few hundred tons which was on the move, is laying in 8,000 tons of yard stock this season. A river retailer, who also has rail facilities, recently brought in fourteen barges, of 500 tons each, at one time, and is stocking heavily. A large producing, jobbing and retailing concern, started on May 1 to ship its surplus production to a chain of retail yards in a number of Southern cities. The sales manager of this company said: "We feel that we will have a much higher market later. Right now we haven't much demand for steam coal or prepared sizes. Instead of operating part of our mines part time, we are taking advantage of the dull demand and loading up all of our retail yards. We will carry this coal until demand is keen and prices higher, and get a better profit out of it than we could otherwise, while our mine production will be free to take advantage of a higher market, which we could not take advantage of if we needed coal in our retail operations."

The policy of brick concerns which have the financial capacity of stocking ninety to one hundred and twenty days' coal supply is a good one, as it will protect them against any special advances, whereas there is no reason to believe that there is any possible chance of declines under present spot figures.—*A. W. Williams, Representative "Brick and Clay Record," Louisville, Ky.*

* * *

A Mutual Home Building Plan

Home building plans of every description and almost as numerous as the home builders themselves have sprung out of the present necessity for housing facilities. A plan which seems to have very excellent features has been devised and is being carried out by the Mutual Home Building Corporation of Chicago, Ill. The name of the company suggests at once the idea of the plan, it is a mutual proposition. Anyone desiring to acquire a home thru this company joins a unit, consisting of 110 members.

The concern agrees to erect a seven-room bungalow, all brick, according to a definite design, for $6,300. The member pays into the corporation $3,300 at the rate of $10 per week or more and gets his home with a mortgage of $3,000 for which he pays at the rate of seven per cent. or less. It is not necesary to wait six years before the home can be built, for, if it is possible for the member to pay more than $10 per week or if he should have several hundred dollars on hand which he can turn in as payment it is very probable that he might be one of the first to have his home built. The member having the most money to his credit at the time the assignment is made will receive first consideration. Every member must have his own lot. Ground will be broken every three weeks for a home.

The attractive feature of this plan is that there is no interest to pay except on the $3,000 first mortgage. All cost of a second mortgage is eliminated by the mutual system. In case of death, regardless of the amount paid in by the member, the home will be built at once by the corporation without any further payment being made by the heirs of the deceased. The home, however, will be encumbered with a mortgage of $3,000. The corporation protects itself from such casualties by insurance.

* * *

43,000 Locomotives Have Brick Arches

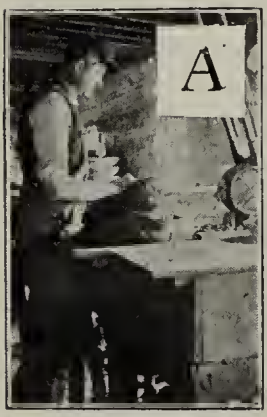
Brick is cutting an appreciable figure in the economy campaign of the railroads and thru the use of fire brick arches in locomotives a considerable saving in fuel is effected. There are approximately 65,000 locomotives in the United States at present and of these 43,000 have been equipped with brick arches.

Experiments conducted by the Pennsylvania System have determined just what locomotives should be equipped with brick arches and as a result of these tests all locomotives designated will be so equipped as the funds are available to carry on the work.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

ACCEPT NEW DIPPING REGULATIONS



A CLOUD that threatened a storm in the generalware pottery industry during the last few weeks has gone down over the hills, and blue skies once more appear. The whole proposition hinged upon the adjustment of a strike of the dippers, the latter objecting to certain regulations pottery manufacturers inaugurated in their campaign for better ware.

Late in April the Homer Laughlin China Co., of East Liverpool, Ohio, and Newell, W. Va., posted notices in the dipping departments of their several plants which had to do with the number of pieces that were to be dipped at one time. Also that use should be made of the "hook and nail" board, and no more than two 3-inch pieces of flat ware should be dipped at the same time.

DIPPERS PROTEST NEW REGULATIONS

The dippers in these plants objected to these new regulations, some of them going so far as to assert that it would cause a reduction of one-third in their wages. This was not proven by the facts. The dippers in the Laughlin plants left their tubs, and then manufacturers of the East Liverpool district met in East Liverpool and adopted similar rules for the guidance of their dippers. Then it was that all the dippers left plants where these notices were posted.

A meeting of the Executive Board of the National Brotherhood of Potters was called by acting president John T. Wood to convene in Trenton, N. J., and this session was held May 2. This resulted in the dippers being notified in writing by the Executive Board to return to their tubs regardless of regulations.

IDLENESS FORCED ON OTHER BRANCHES

On May 4 a general meeting of the United States Potters Association was held in the William Penn Hotel, Pittsburgh, Pa., and the manufacturers re-affirmed the position they took at the East Liverpool meeting a week previous. On the afternoon of the same day, the dippers of the East Liverpool district met and voted to obey the injunction of the Brotherhood of Operative Potters of which body they are a part. At 7 o'clock the evening of May 4 the dippers announced they would return to work, and by May 9, all potteries were again working under normal conditions.

The position assumed by the dippers did not have the sympathy of the other crafts in the trade, as the clay shops, decorators and others were interested in the campaign of the manufacturers to produce a better quality of merchandise. But, as the dipping department is only one cog in the pottery industry, other departments were of course forced into idleness with the exception of the warehouse, decorating and shipping departments. Had the dipping departments not resumed, it would have been only a question of days until all plants would have been idle in all departments.

Manufacturers are now insisting that kilnmen fill their saggers to capacity, in order that kiln losses shall be lessened. It has been pointed out by the manufacturers and plant superintendents, that it costs just as much to fire either an empty or a sagger only partially filled as it does to fire it when it is filled to its capacity. Kilnmen work on a cubic foot space basis for a day's work, and the quicker that amount of space is filled the quicker the day is ended. It frequently happens that kilnmen "put in" two and one-half to three and one-half kilnmen day per diem.

Clay shop workers are taking more pains with their work than during the war period, and in some shops a careless clay worker is chided because of the inferior workmanship he is putting forth. Manufacturers are now in that position where they can select their workmen, and when one is found who is not putting forth his or her best efforts the worker is notified that his or her services are no longer required, a two weeks' notice being given by worker and manufacturer when relations are to be severed.

The situation is just the reverse of what prevailed during the war period, when "anything" was good enough.

* * *

H. S. Maddock Reviews Business Outlook

Returning from a three months' trip to the Pacific Coast states, Cuba and Mexico, H. S. Maddock of the Thos. Maddock's Sons Co., Trenton, N. J., gives a review of the business outlook in the company's house organ, known as "The Anchor".

Mr. Maddock states that without exception everyone approached on the subject is optimistic regarding the future and the concensus of opinion seems to be that the period of deflation thru which we have been passing for some time will continue but a short while longer and within the next few months business will start to pick up gradually. Mr. Maddock is very optimistic as to the future of business generally and particularly in his line, the manufacture of plumbing fixtures. In addition to furnishing fixtures for a goodly number of new buildings Mr. Maddock believes that remodeling of old buildings will appreciably swell the total sales for the year.

Mexico, he says, is not in as good a condition as it could be, but it is surprising to note that tho this country has gone thru many years of almost continual revolution, business seems to be going on at a rather normal rate. With the settlement of the political difficulties, Mexico, with its almost unlimited resources will progress very rapidly and offer a fine market for American goods.

Reviewing the situation broadly reveals a gradual increase in business activity Mr. Maddock says, and the fall should see a return to conditions which are somewhat near our old-time prosperity. It is a case of readjustment being completed in all lines.

Jobbers handling plumbing fixtures thruout the country have been reducing stocks and not replenishing them as they would under normal conditions. This will undoubtedly mean a brisk demand for material when building is resumed in any great proportion.

* * *

Buyers Holding Off For Lower Prices

General business conditions with the generalware pottery manufacturers of the United States could be better, but they could also be a whole lot worse. Buyers for the distributing agencies, both jobbing and department store interests, are not anticipating future requirements as of yore, and it is not denied that some of them are living in the thought that "prices will drop on the morrow." That a false hope is being entertained is generally admitted by the manufacturers.

There will be no decline in the selling lists of generalware until there is a reduction in labor and overhead costs. The pottery workers are working under a wage agreement that does not expire until October 1 next. No effort is being made to re-open the covenant.

* * *

Will Ask Operatives to Accept Lower Wages

The annual convention of the National Brotherhood of Operative Potters will be held in Atlantic City early in July. Then will follow a joint wage conference between the Labor Committee of the United States Potters' Association and the Executive Board of the Brotherhood.

It has already been indicated that the pottery workers in convention will seek to have their present standard of wages put in force for another year at least.

Manufacturers make no comment upon this suggestion of the workers, but the signs are unmistakable that a reduction in wages will be insisted upon, also that the bonus system shall be eliminated.

There has been no noticeable reduction in the cost of materials, and where these have appeared, such reductions have been absorbed by increased freight rates.

* * *

California Company Gets Workmen from East

Workmen imported from the East by the Empire China Co., Burbank, Cal., have begun to make the molds which will be used in manufacturing the various kinds of ware which the company will turn out. It is planned to have the molds in readiness at the time the kilns are built. The company has changed its original plans somewhat and will erect another building in which the grinding of the clay will be done, instead of having this work done by an outside company.

John Rowe, superintendent, has returned from a trip to the East, where he inspected new types of kilns. The new styles did not find favor with him and the old style periodic kilns will be installed at Empire China Co.

Freight Rates Higher Than Cost of Ware

A meeting of the Eastern Association of Potteries and the Pot Makers' Credit Association was held recently at Columbus, Ohio. Frank Ransbottom of Zanesville, Ohio, said that the demand for staple products in the pottery industry had continued very well after the war, artistic ware only showing a falling off. It was mentioned that freight rates from Ohio to the Pacific coast now amount to more than the actual cost of manufacture. Whereas formerly the rate on pottery per 100 pounds was ninety-nine cents it is now over $4.

* * *

Los Angeles Deposits Fast Being Developed

Clay deposits in Southern California are rapidly being developed to an extent where the manufacture of clay products in that section will become a very important part of California's industry. The discovery of a deposit of clay in San Bernardino County, near Los Angeles, which is reported to be of the very highest grade for the manufacture of china and electric porcelain, has lead to the organization of a concern of which Theodore A. Bell of San Francisco is head and associated with him is Thomas Normalie, connected with the ceramic industry practically all his life.

The Vernon Potteries at Los Angeles will be remodeled and enlarged and additional kilns will be built on a fifty-two acre tract on East Fifty-second Street, Los Angeles. Shipments of the clay have been made to several eastern plants and the first shipment to Japan on an order of 2,500 tons has been made.

* * *

Potteries Have Many Busy Months in Sight

Chinaware potteries of the United States are unusually active, in fact, more so than the semi-porcelain plants. The demand for hotel and restaurant china is keeping up well, and stocks in the china plant warehouses are rather low. Most operations, however, are on orders, and that the industry will operate steady for many months to come is assured on account of the large amount of unfilled business now on file.

* * *

Expects Picking up in Earthenware Demand

Demand for pottery is over for the season and demand for stoneware has not started as yet according to K. P. Snyder, of the Louisville (Ky.) Pottery Co., who stated that in June the earthenware business should pick up, which would probably result in some fair business but that just now there was very little doing.

Mr. Snyder, in discussing the fuel situation, remarked that in making glazed stoneware his company used nothing but West Virginia lump coal, buying coal that had gone over a two-inch screen, having found that mine run coal, or coal containing screenings, tended to blacken up the stock in the kiln, and good results could not be obtained. Other good gas coals frequently burn too fast to get desired results.

* * *

To Join U. S. Potters Association

Harrold H. Knowles, president of the Homer Knowles Pottery Co., of Santa Clara, Calif., who has been in the East Liverpool, Ohio, district purchasing machinery for his seven-kiln plant and inspecting the Kirk tunnel kiln in operation in the Lenox Inc., plant at Trenton, N. J., left Chicago, Ill., May 8, for home.

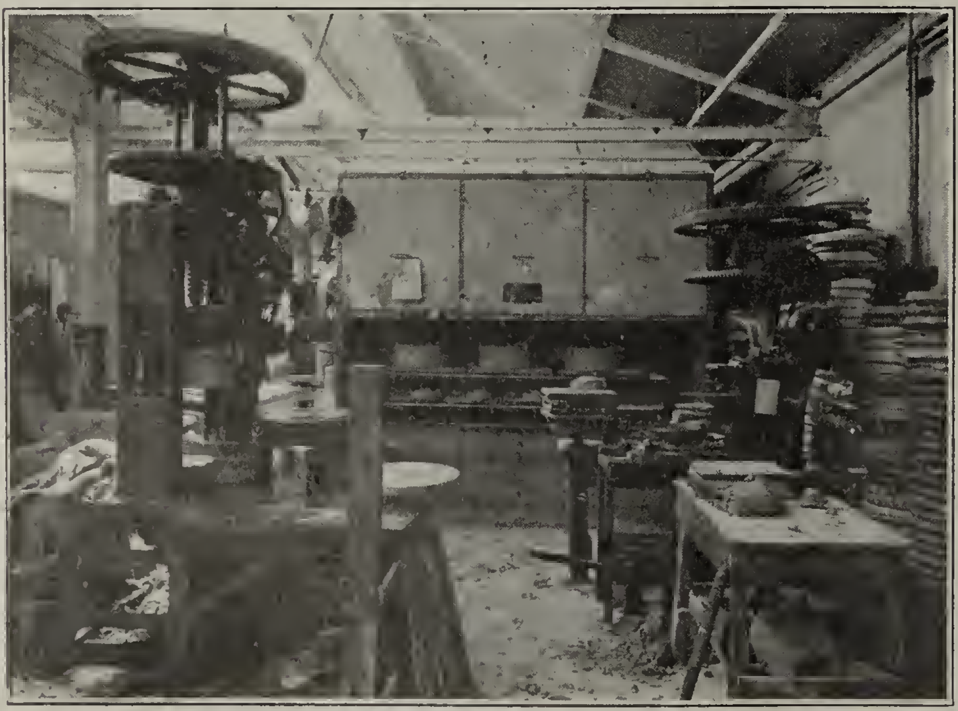
LENOX INC., IND

"Proctor" Automatic Stove Room (feed end) Drying "Lenox" Cups.

The new plant of Lenox, Inc., Trenton, N. J., is modern in every respect. Modern, efficient methods have been adopted in all departments where such a policy is consistent with Lenox standards of excellence in Chinaware.

Throughout the plant is maintained a rigid policy of using only the methods and materials which contribute to a final product of surpassing quality.

"Proctor" Dryers and Automatic Stove Rooms have earned a place in this plant because they fulfill the most exacting requirements of quality in drying results.



"Proctor" Automatic Sagger Dryer in "Lenox" Plant.

Partial view of the installation of "P
Trenton, N. J. The two "Proctor"
drying cups of the highest quality
Dryers—one, drying saggers; the oth
these machines are given in the accom

"Pro

PROCTOR & SCHWA

Branch Offices—Chicago,

E QUALITY DRYING

ryers in the plant of Lenox, Inc.,
Stove Rooms, shown above, are
. Near-by are two mo~e "Proctor"
scrap porcelain. Close-up views of
llustrations.

tor"

RYERS

Inc., Philadelphia, Pa.
h, New York, Providence

"Proctor" Automatic Stove Room (delivery end) Drying "Lenox" Cups.

"Proctor" Dryers always make the user sure of perfect uniformity in drying general ware, saggers, electrical porcelain, tile, etc. This perfectly uniform drying prevents warping and cracking, makes spoilage a negligible quantity and insures better ware.

These machines are vastly more efficient and economical than old drying methods. They supply the nearest approach to completely automatic operation, making radical savings in time, as well as in space and labor.

For these important reasons, "Proctor" Dryers, Automatic Stove Rooms, and Mangles are recognized as a necessity to combined quality and economy in the production of clay wares.

"Proctor" Automatic Dryer for Scrap Porcelain in "Lenox" Plant.

The company will file an application with secretary Charles F. Goodwin of East Liverpool, for admission as a member of the United States Potters Association. Less than 100 pottery workers will be hired from the eastern pottery district. A plain and fancy dinner shape will be made by the Knowles Co., also a general line of semi-porcelain hotel ware.

* * *

Striking Men Ordered Back to Job

The strike of the casters in the plant of the Hall China Co., East Liverpool, Ohio, has been settled by the workers being instructed back to their places to work under conditions which have been in force for years. The Executive Board of the National Brotherhood of Operative Potters issued the "return to work" order. And, the men were glad to go back. The men wanted an increase of five cents per dozen for "plugging" teapots, with back pay for the last six or eight months. The firm refused to agree to the demand, and the casters left their benches.

* * *

Has Exhibit in Local Chamber of Commerce

At the headquarters of the Chamber of Commerce of Glendale, Cal., among the displays of the various industries of the city, is a case of ceramic ware exhibiting the products of the Tropico Potteries, Inc., of Glendale. The case contains floor and wall tile of a variety of colors, samples of terra cotta, several types of vitrified sewer pipe and also ordinary drain tile. Later the company expects to place on display two more cases of its various products.

* * *

New $200,000 Pottery Plant

The Wheatley Pottery Co., of Cincinnati, Ohio, has been incorporated with a capital of $200,000 to manufacture pottery and other kinds of clay products as well as doing a business of mining and selling clay. The incorporators are Isaac Kahn, John B. Swift, Joseph Hummel, Jr., Herman A. Bayless and Anna Mahoney.

* * *

Will Build Two Decorating Kilns

Two new decorating kilns are to be built at the plant of the Hopewell (Va.) China Co., which will give the firm four decorating kilns. Some changes in the official positions of the executives of this plant are expected to be announced before the month's end, it being reported that certain East Liverpool, Ohio, interests will become associated with the company financially.

* * *

Philadelphia Pottery Demand Fair

In a digest of business conditions in the Philadelphia, Pa., district, the Federal Reserve Bank in that city sets forth that the demand for pottery is fair at the present time; prices, lower; raw material supply, ample; collections, variable; and finished stocks on hand, heavy.

* * *

Hopes to Operate New Plant Soon

The Trenton Flint & Spar Co., Trenton, N. J., is planning for the early occupancy of its new plant on Marion Street, now nearing completion. The new factory is one and two-story, 33x80 ft., and 33x103 ft., respectively, with motor house and boiler plant, 33x35 ft. The different buildings are of brick and steel, representing an investment of about $75,000. The company also operates a plant in Maine, the source of considerable of its spar.

* * *

Watt Bros. Purchase Pottery

The sale of the pottery plant at Mt. Gilead, Ohio, has been announced. The plant has been sold to Watt Bros., of Roseville, Ohio, experienced pottery manufacturers. This firm has recently purchased a similar plant and will dismantle one and use the machinery at the other.

* * *

New Jersey to Have New China Ware Concern

George F. Bassett & Co., East Orange, N. J., has been organized with a capital of $150,000 to manufacture and deal in chinaware. The company is headed by William B. and W. Irving Harris, East Orange.

* * *

Builds Additions to Plant

The Washington (N. J.) Porcelain Co., manufacturing electrical porcelain products, has completed the erection of two additions to its plant, 50x96 ft., and 20x50 ft., for increased operations.

* * *

The Ackley China Co., Poughkeepsie, N. Y., has filed notice of dissolution under state laws.

* * *

High Grade Clay Found on Kentucky Farm

While digging wells on the farm of J. J. Wells at Hickman, Ky., it is reported that clay suitable for the manufacture of porcelain has been discovered. An expert, called in to examine the clay, reported that it was of high quality and in great demand in this country.

* * *

Returns From Eastern Business Trip

Edward J. Owen, president of the Southern Potteries Co., of Erwin, Tenn., who has been making a business trip thru the eastern pottery district has returned to his desk. He reports business conditions with his company good, and that output is on a normal basis.

* * *

Floor Tile Company Organizes in Oklahoma

Incorporation of the Beasley Floor Tile Co., Oklahoma City, Okla., with a capital of $20,000 has been announced. The incorporators are Thomas J. Beasley, Sarah E. Beasley and Charles L. Moore.

* * *

Beaver Falls Pottery Starts Work

Operations have begun at the large plant of the Sherwood Bros. Co., pottery manufacturers of Beaver Falls, Pa. The plant had been idle for two months previous to its reopening, due to the general slump in business. Work will be resumed on a full time basis.

* * *

Reduces Quarterly Dividend Rate

The Trenton (N. J.) Potteries recently declared a quarterly dividend of one per cent. on the noncumulative stock. The company formerly was in the habit of paying dividends at the rate of two per cent. quarterly.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Obtaining Clay for Brick Making

The method used by the Fulton (Mo.) Fire Brick Co., to obtain its clay and coal for factory use, is of considerable interest because of its unusual features.

Steel buckets connected with aerial arrangement are used to raise the clay out of the pit. A trap door bottom is released by the operator located in the building so that the clay is dropped into an auto truck and hauled away to the plant.

There are several coal and clay shafts located on the properties and the minerals are hauled out of these with electric hoisting machines and dumped into the chutes which in turn feed the motor trucks.

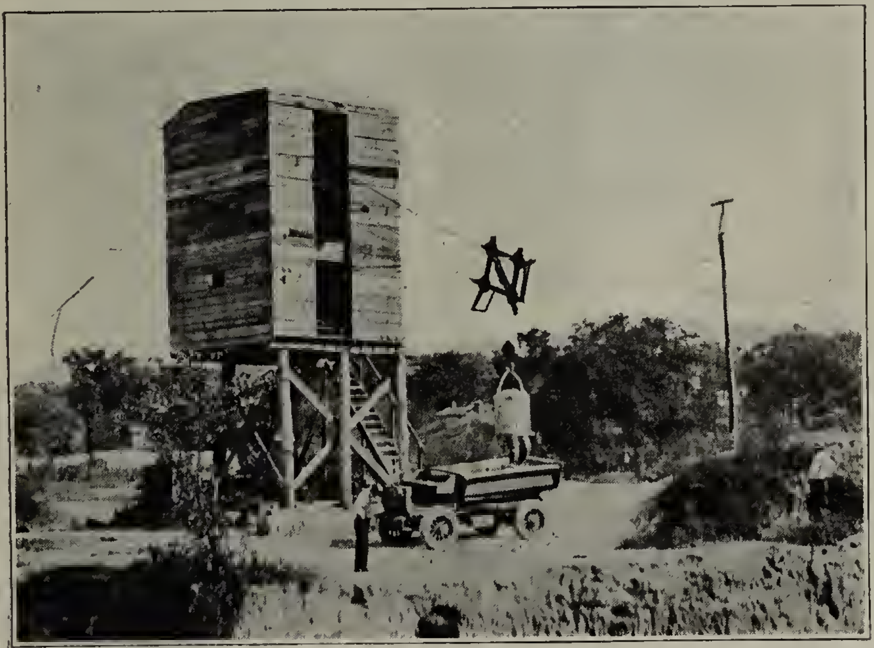
The mines are located about one and one-half miles from the plant and eight motor trucks are used to carry twenty loads per day of two tons each.

⁂

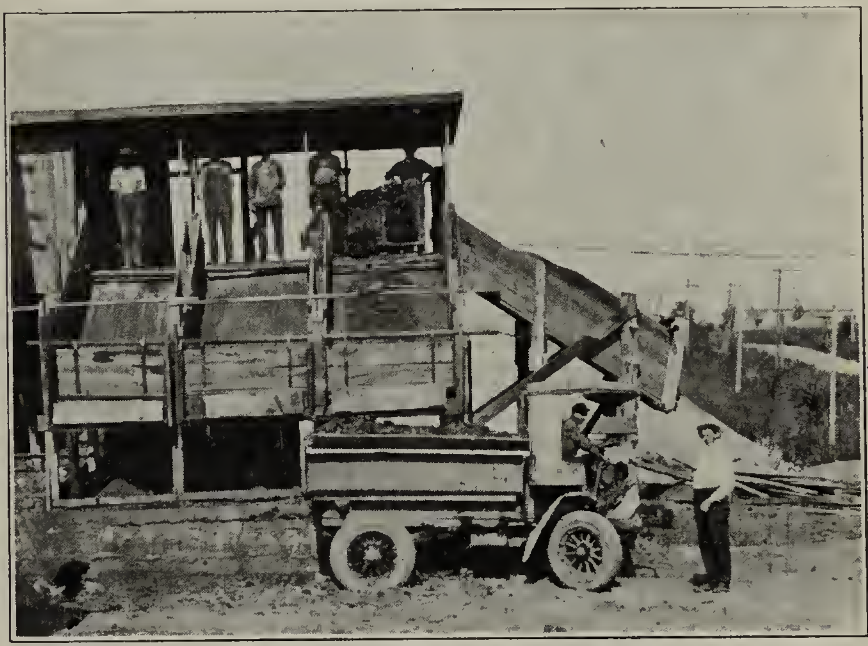
A New Explosive

An objection to the use of explosives is the headaches that usually come to the blasters in the handling of dynamite in the blasting of shale, fire clay or rock. "Blasting day" has always been looked upon with dread on this account.

There recently has been discovered, it is reported, a new non-headache explosive. It is said that even when the cartridges are handled and loaded without handling gloves, not the slightest headache is experienced. It is furthermore claimed that less explosive is required and that the powder is suited for cold weather blasting.



A Bucket Arrangement Takes the Clay from the Pit and Dumps it to the Truck. Clay is Hauled a Distance One and One-Half Miles from the Mine to the Plant.



Motor Trucks Are Used to Haul the Raw Material at This Plant. The Clay or Coal Is Taken up from the Mine and Dumped Into the Chutes Which Feed the Truck.

Transformations in Clay Following Oxidation Stage

Clay at the end of the oxidation stage is still very porous and of low mechanical strength. It has been prepared, however, so that it now only requires additional strength to make it suitable for structural purposes. This is accomplished by forming a glass-like substance which cements the various grains in the mass together and forms a strong piece.

The alkalies in the clay such as lime (CaO), magnesia (MgO), iron oxide (FeO), etc., serve as fluxes and they begin to fuse below their individual fusion point and a complex eutectic point is formed. Thus, as the temperature of the kiln is increased, contraction of the clay takes place, which is more marked as the heat becomes greater. The piece of clay is now undergoing a change which is converting it from an earthy mass into an igneous rock.

As the particles of iron oxide, lime, silica, and alumina soften, and get in contact with each other, they form a complex compound and a matrix which resembles a molten glass, and this process causes contraction. In this condition, the clay is subject to surface tension. The fused mass has a tendency to form into a drop or sphere much like water does. There is a tremendous force causing this formation into a drop—a force much greater than is usually realized.

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
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QUESTIONS

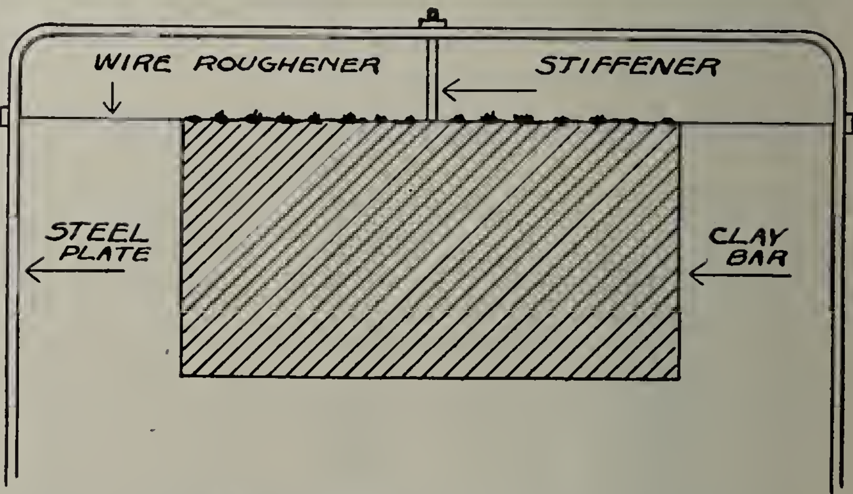
A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

How Are Rough Textures Made?

970. *Maryland—Will you please give us some information on making rough texture brick? Of the various combs and rigs used for this purpose? Is there any marketed by the machinery companies, or are they so simple to make that each brick manufacturer makes his own? If the latter is the case, I would like to know what method is in general use.*

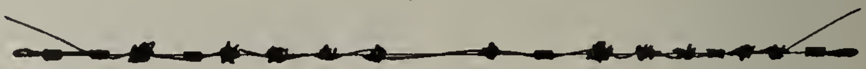
In setting rough texture brick in kiln is it best to lay them on the flat in chimney style, or can they be set in the ordinary manner, say 6 on 2? Is it customary to use a roller after the column passes the rough tex comb?



A Device for Making Rough Textured Brick Which Anyone Can Make.

The usual stunt for plants to follow that desire to make a rough texture brick is to stretch a wire across the mouth of the die, making a product that is usually similar to something someone else makes, or it may be a novelty, depending upon the character of the clay, the coarseness of the grinding, the plasticity of the column, and position, gauge and twist of the wire.

In some cases a wire is twisted around the cutting wire which is located at the mouth of the die and the twist or wraps are purposely made, at varying distances as are shown in the illustration.



This Simple Cutting Device is Made by Winding Ordinary Wire Around Heavier Wire.

In some cases by softening the bar by means of a sprinkler, a somewhat different texture will be obtained. This method has been used in connection with the twisted wire shown in the accompanying illustration.

The wires that roughen the ends of the brick are placed at the mouth of the die and the separation of the top and side wires preserves the rectangular shape of the brick.

Another method of treating a clay bar for rough texture brick, is to use a frame similar to that illustrated herewith, with a row of nails of good size protruding thru the frame so

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

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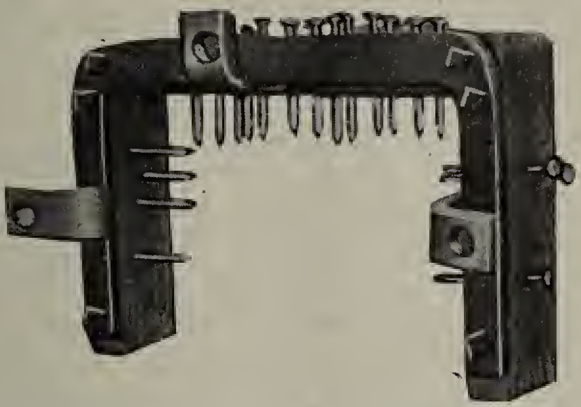
that a series of points are made to scrape the clay column. This frame is simply bolted on to the mouth of the die. The frame in the illustration shows but a few of these nail points. The device should, however, have a large number spaced at close intervals and all points protruding about the same distance into the clay bar.

Saw blades have also been used to roughen clay columns.



A Contrivance to Make Rough Textured Brick. Any Ordinary Mechanic Can Make It.

Several patented machines are also in use by various brick manufacturers who might be willing to permit other manufacturers to use them on a royalty basis.

A steel roller may or may not be used to follow the scorer on the column. The loose clay or shavings are rolled on to the column when the roller is used. However, in some cases the excess clay is removed entirely from the column.

As for the setting of the brick in a kiln, the brick may be set in ordinary manner. Of course, where it is desired to produce certain color effects and where it is desired to flash, it is necessary to set the brick in flat chimney style.

* * *

To Make Face Brick of Mixture

972—*Georgia. We desire to know some details concerning the mixture and process of manufacturing face brick out of fire clay. We have plenty of fire clay on hand and can get an equal amount of red clay. Rather than go thru a long tedious experimental stage, we prefer to secure suggestions that will save us time and tell us how to determine the best way to manufacture face brick.*

A certain amount of experimentation is essential in order to determine the proper mixture and methods of making face brick out of two different types of clay. The physical and chemical properties characteristic of either clay may be destroyed when the two are combined. Thus, for this reason it is necessary to make trials with various mixtures of the clays.

As far as general manufacture is concerned, the process of making face brick from fire clay or a mixture of fire clay and any other clay, is the same as that used in manufacturing ordinary shale face brick, that is, the stiff mud

BRISTOL'S RECORDING PYROMETER

tells the workman at a glance just what the temperature conditions are now, what they have been, and in what direction they are leading. With this knowledge he can readily obtain close regulation—and even inexperienced workmen can do better work.

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Never mind the quality; put it up to

CANTON Rocking and Dumping Grates

to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

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in manufacture insures perfect satisfaction in supplying your fire brick requirements.

The Stowe-Fuller Co.
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Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

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50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

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"Make Good Belts Give Better Service"

Once on, Crescents are on to stay. A Crescent joint will outlast the most durable belt. No part of belting is punched out or weakened. Maximum strength maintained. Belt runs same as endless on pulley side. No knocking or thumping. Noiseless. Joint hugs pulley. Full power transmission insured.

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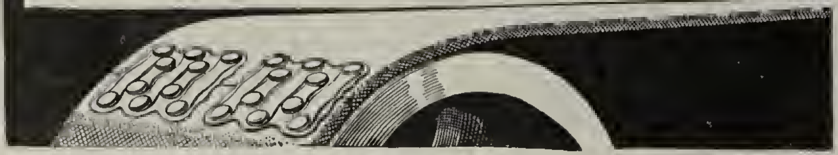

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

process is used. There should be very little difficulty in the process of manufacture of your clays providing they are at all suitable for brick making.

Now as to the mixture of your clays, it depends upon the color you desire to obtain as to what mixture to use. If it is desired to make a buff or cream colored face brick, a pure fire clay must be used. Buff, grey and cream colored brick are quite popular in many sections and make pretty buildings. By regulation in burning it is possible to produce various effects which make a beautiful brick and this process is called "flashing". Many of these brick are made in Ohio and Pennsylvania.

If you care to manufacture browns and various shades between red and buff, you can, of course, mix your red clay with the fire clay. The proportion that you will have to mix will depend upon the physical properties of the two clays you have on hand and the color to which you desire to burn. The more red clay you use the deeper will be the color and the more red it will get.

We would suggest that you experiment along these lines. Make a series of molded brick samples using various compositions. You might make them by hand and quite a number of each type.

Take a batch of each kind of clay and mix them into various proportions, each differing five per cent. in composition from the other. That is, make several brick from all fire clay, some with ninety-five per cent. fire clay and five per cent. red clay and so on until you get to fifty per cent. of each kind of clay. These samples should then be set in a kiln with your regular product and burned. By marking the samples you can readily determine which composition gives you the best results and then you can arrange your composition so as to give you the best color and the best working proportions of the clay.

It should not take long to determine a good combination of the clays if you use this method.

The LETTER BOX

A Place Wherein Letters
That Have General Interest Are Published and
Commented Upon

Claims "Ideal Wall" is Moisture Proof

Some time ago *Brick and Clay Record* printed in this department under the head "Suggests New Size for Common Brick" a letter from C. W. Martin president of the Phenix Clay Corporation, Dallas, Tex. The letter commented on the new brick hollow wall known as the "Ideal Wall" and suggested that it might be a good idea to make the brick nine inches long by three inches wide. By using this brick and laying a header after six stretcher instead of one, will require exactly the same number of brick to build a nine-inch wall as required in the way originally suggested.

Mr. Martin's letter brought forth several comments which were printed in the May 3 issue of this magazine. Edward R. Coonley, secretary-sales manager of the American Fire Brick Co., Spokane, Wash., advocated that it would be better to push hollow tile faced with face brick. Mr. Coonley also quoted a remark which he claimed was made by Ralph P. Stoddard, secretary-manager of the Common Brick

Manufacturers Association of America on the occasion of his address before the meeting of the common brick manufacturers in Spokane, during the latter part of 1920.

Mr. Stoddard was quoted as saying the following: "It is a well known fact that a solid brick wall is the ideal construction and is just as good insulation against heat, cold or dampness as a hollow wall."

In answer to Mr. Coonley's statement *Brick and Clay Record* has received a letter from Mr. Stoddard which is reprinted below.

I have just read the letter of Edward R. Coonley of the American Fire Brick Co., Spokane, Washington, in which he attempts to quote a remark that I made in Spokane a year ago.

I am most unwilling to enter into any controversy between brick and tile. I am for both of them, each in their proper place. I believe with Mr. Coonley that the work that the Hollow Building Tile Association is doing is of benefit to all clay products. Their advertising is clean and legitimate. We try to have our advertising of the same grade and trust and sincerely believe that the advertising of the Common Brick Manufacturers Association will work for the benefit of all clay products.

The attempt of Mr. Coonley to quote from my remarks at Spokane is a little unfair because the only reference that was made to tile was in reply to a question asked by Mr. Coonley and was in no way part of my discussion before the brick men. What I actually said in substance was that a solid brick wall is just as dampproof as a hollow tile wall. I remember saying that I could point to as many houses in Cleveland with all tile that had been penetrated by moisture as he could show me of brick that had failed to stop the dampness.

It is the recommendation of the Tile Association itself that tile walls be furred and lathed on the inside as a guarantee of dryness. We make the same statement in all our literature regarding the solid brick wall and recommend always that it be furred and lathed.

Mr. Coonley's error in quoting me is in using the term "hollow wall" instead of hollow tile wall. The hollow brick wall was not in discussion, and so far as this association is concerned, has been developed since the time I visited Spokane.

We claim for the Ideal Wall, which is a brick hollow wall, that it is absolutely dry and may be plastered directly on the brick, and we have scores of examples to justify our claims. We certainly would not recommend the Ideal wall to be plastered on the brick if we were not satisfied beyond a question of doubt that this construction will be dry and satisfactory.

The reason the Ideal wall is dry is:—

1. Because there is no continuous mortar joint thru the wall.

2. There is a circulation of air in the air space which drives out any moisture which may penetrate from the exterior thru the headers and does not permit it to reach the interior of the wall.

I know of no other type of masonry construction, except the Ideal wall, that a responsible person will recommend as being dry without waterproofing or furring.

In the same mail with the last copy of *Brick and Clay Record* containing Mr. Coonley's letter, we received a letter from Samuel B. Cox, of Anacosta, D. C., in which he says: "In March I built a bungalow with nine-inch walls Ideal construction. The wall is perfectly satisfactory, altho the part that is below grade is in a wet soil; so wet in fact that we had to lay a drain on the outside of the foundation. The part that is above grade has been exposed to heavy driving northeast rains of two or three days duration without any perceptible dampness showing on the inside."

We have found examples of eight-inch all-rolok walls, which we now call Ideal wall, built thirty years ago at Joliet, Ill. This wall was plastered directly on the brick and the owner and architect of the building has assured us that never has there been a sign of moisture or frost thru this wall.

These are two of scores of examples that we have investigated, and every one has been found to be thoroly satisfactory. So I will say to Mr. Coonley that it is not embarrassing in the least to justify the statement I made at Spokane.

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Results Guaranteed With
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Why Use Coal For Fuel?
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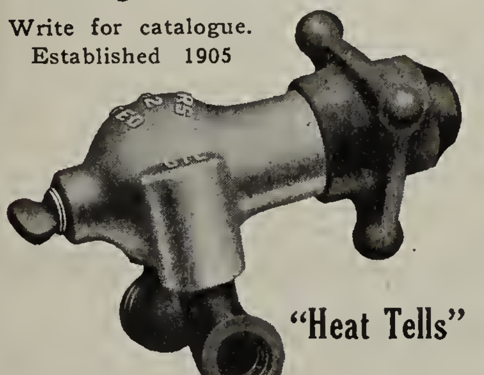

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It is expensive besides taking longer to burn your ware, and considerable more labor.
USE OIL
The Schurs Kiln Burners in your kilns mean—Quick Burns, Better Colors, complete control of fire and
Great Labor Saving
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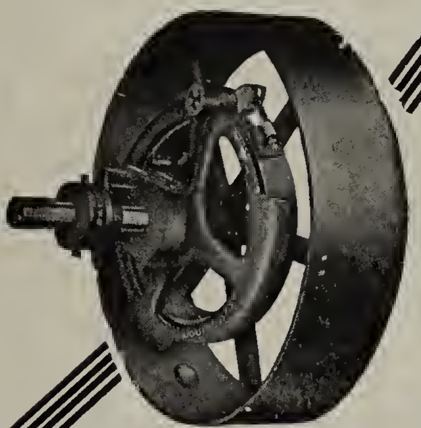

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One good feature in a clutch does not make it the best. It's the consistent supremacy of all its parts and the continuity of the service it renders that makes a clutch superior.
Caldwell engineers have spent years in perfecting every feature of their clutches. They have planned with an eye to the future. They know that every Caldwell Clutch installation means years of unremitting service. The extreme simplicity, ease of control and adjustment, and the saving in waste power are responsible for the universal popularity of Caldwell Friction Clutches.
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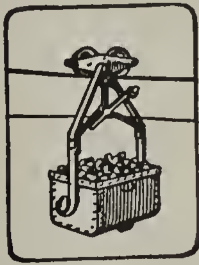
FRICTION CLUTCHES

Leschen Wire Rope Tramways



The efficiency of the Leschen Aerial Wire Rope Tramways for handling materials has been demonstrated by the actual operation of many installations.
We have had many years of practical experience in this line of work, and shall be glad to discuss your transportation problems with you.
Established 1857
A. LESCHEN & SONS ROPE COMPANY
New York Chicago ST. LOUIS Denver San Francisco

Manganese

We have prepared for the Spring and Summer building boom. Have You?

We have all standard mesh manganese, especially prepared for Brick Making, in stock ready for prompt shipment, with our mines and mill running full time.

If you have not already arranged for your 1921 supply of MANGANESE, we would advise that you send us your order for your requirements at once.

We guarantee an even grade product at all times.

Hy-Grade Manganese Company

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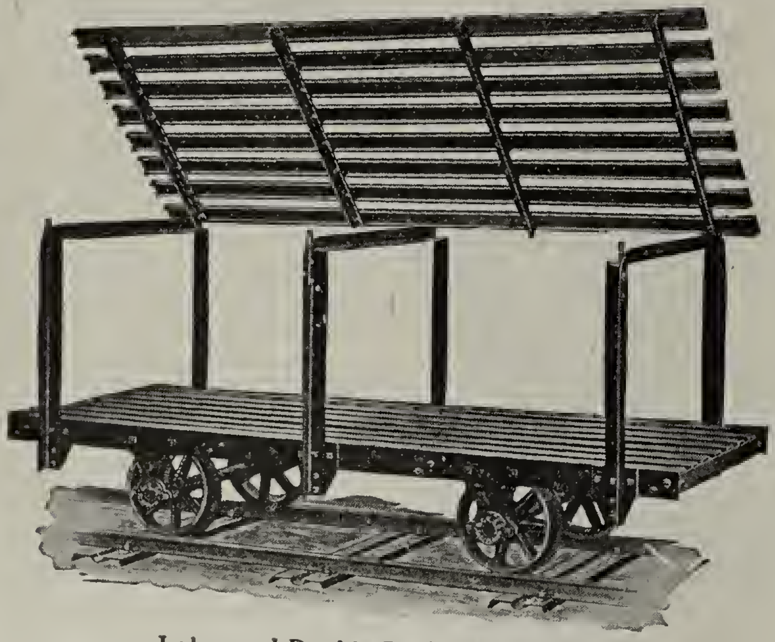

Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

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FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

C. R. Madson Leaves Algona Brick & Tile Co.

C. R. Madson, who has been manager of the Algona (Ia.) Brick & Tile Works since 1909 and secretary of the company for the past five years has severed his connection with the firm.

Indiana Highway Commission Director Quits

L. H. Wright, director of the Indiana state highway commission, has announced that he will submit his resignation shortly before June 1. Mr. Wright has served as director of the department since April 17, 1919. Under his supervision, the state highway system of approximately 3,600 miles has been laid out and officially taken over by the state.

Birmingham Brick Prices Drop

Building brick are moving more actively and many of the plants in Birminghom, Ala., are increasing their output, owing to the building activities of that section.

Brick are now quoted at $15, a drop of $2 from the April price, and a drop of $9 from last year.

Sales Total Over $1,000,000

During the year 1920 the Gladding-McBean Co. manufactured clay products worth $1,225,000, according to a statement issued at the headquarters in Lincoln, Cal. The pottery there is employing about 600 men.

San Luis Obispo Plant Running

The first run of brick has been made at the San Luis Brick Works, San Luis Obispo, Cal., recently purchased by Faulstich Bros., Long Beach brick contractors of wide experience. They expect to produce superior brick at a lower price than it can be shipped there.

California Bright Spot in Building Activity

New developments in the brick and clay products industry in California are taking place almost overnight with some of the projected enterprises being rushed to begin work and others being conceived by large local business interests. Building operations in both Los Angeles and San Francisco are exceeding previous expectations and the brick supply houses are all being kept busy as well as the brick plants and clay products manufacturers.

Fire Razes Denver Shale Brick Plant

The plant of the Denver Shale Brick Co., near Arvada, Colo., was destroyed by fire of unknown origin. The loss is estimated at $15,000. Owing to a lack of water at the plant it was impossible to fight the fire, which had gained considerable headway before it was discovered by the night watchman. Officials of the company expect to rebuild immediately.

Fire Wreaks Havoc with Clay Company

Causing a loss estimated at $13,000, fire of unknown origin destroyed the Denver Shale Brick Plant at Swadley, Colo. Every building on the premises was burnt down with the exception of one barn.

To Operate at Tampa, Florida

Hull & Hull, Inc., Pensacola, Fla., has been organized with a capital of $50,000 to operate a plant in the vicinity of Tampa, Fla., for the manufacture of burned clay products. A. G. Runyon is president, and Randell Bell, secretary and treasurer.

Idaho to Have Large Clay Plant

One of the largest brick and tile factories in the intermountain country will be erected soon if the plans of the new Idaho Clay Products Co., formed under the laws of Idaho with capital stock of $250,000, are carried out. This concern owns approximately 1,500 acres of clay lands near Weiser, Idaho. Machinery formerly used at an old brick factory at Boise has been purchased at a cost of $56,000, it is said, and will be transported to its new location.

Incorporators of the company are: J. Kelch, George Benson, Manley Brizendine, G. H. Brizendine, C. I. Wild, C. F. Dunn, H. C. Hodge.

Bricklayers Vote Reduction of $2

The Brazil, Ind., union of bricklayers at a meeting recently reduced wages $2 a day in order to stimulate building. It was said that similar action would be taken by the carpenters, joiners' and hodcarriers' unions.

Tile Company Organizes

Announcement has been made of the organization of the Jumbo Tile Works, Inc., at Goldsmith, Ind. The company will manufacture clay tile and building blocks and has a capital stock of $50,000. The men interested in the company are E. A. Teter, W. A. Parks, J. N. Russell, J. W. Vandevender and O. C. Manlove.

Bricklayers Accept 10 Cent Reduction

Voluntary reduction in wages of five and ten cents an hour have been voted by Bricklayers', Masons' and Tilesetters' Union No. 3, and the International Hodcarriers' Local Union No. 120, of Indianapolis, Ind., it was announced recently. The wages of bricklayers and masons were reduced from $1.25 to $1.15 an hour; those of the mortar men from seventy-five cents to seventy cents an hour, and the hodcarriers from seventy-two and one-half cents to sixty-seven and one-half cents an hour.

Indiana Highway Commission Complete

Governor Warren T. McCray, of Indiana, announced April 16 the appointment of the four members of the state highway commission. Under the reorganization of the commission carried out by the governor, two of the old members continue on the board and two new members were named. The members of the reorganized commission are as follows: Alvin V. Burch, Evansville; Charles Zeigler, Attica; Earl Crawford, Connersville, and Walter Q. Zahrt, Ft. Wayne. The trade has been considerably interested in these appointments since the highway department is expected to get busy immediately on a large volume of new work.

The state highway commission is one of the most important divisions of the state government. The commission has super-

Apply the vacuum bottle principle to your Kilns

You also know that this is be- of a vacuum bottle will retain its heat for a long period. You know that the contents cause the heat is unable to escape through the wall of vacuum that surround the contents of the bottle.

Sil-O-Cel laid up in the walls and over the crown of your kiln, works on the same principle. It confines the heat to the task which it is intended to perform, thus eliminating radiation losses.

Bulletin Y5 will be sent to anyone requesting a copy. Write our nearest office.

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A Machine That SAVES—Time, Labor and Money

The day of real efficiency has returned. Every operation in your clay plant must be performed in minimum time at the lowest possible cost.

The Marion Rust Special shown below, will help you to speed up your plant, and cut the cost by giving a perfect uniform mix to your clay at all times as well as keeping the off-bearers continuously busy. The investment in this machine is not an added expense. It pays for itself and keeps on saving for you.

We Manufacture a Complete Line of Clay Plant Equipment. Write for Catalog.

Marion Machine Foundry & Supply Co.
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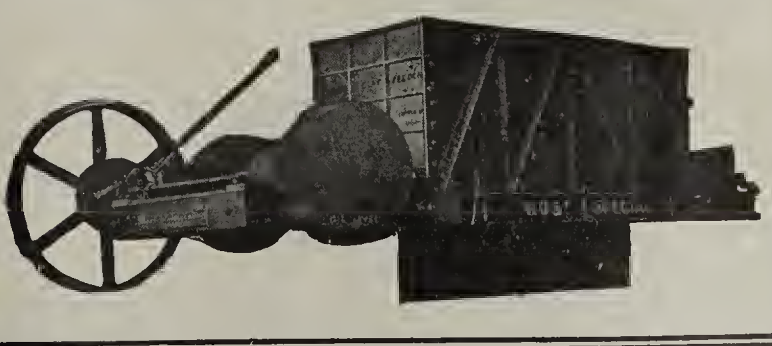

Men Forget—

The SCHAFFER Cannot

In the clay plant there is need of maintaining a definite, uniform tempering in the clay. Men may forget, but reliable machinery such as the Schaffer Poidometer, cannot. You depend on men to watch the tempering, and, as careful as they may try to be, they allow valuable material to be wasted.

STOP THIS WASTE. GET A SCHAFFER POIDOMETER—NOW.

Built scientifically in accordance with known physical laws. Entirely automatic. Can be adjusted to temper, mix and delivery from 1½ to 21,000 lbs. of material per minute; stays on the job every minute and does not forget to "turn 'er on" whenever the tempering even approaches non-uniformity. Prevents loss and affordsmore perfect ware.

Get a SCHAFFER POIDOMETER, and you can depend upon results.

The Schaffer Engineering & Equip. Company
Peoples Bank Bldg. Pittsburgh, Pa.

Toronto
"Means"
Dependability

You can *depend* on
Toronto Clay Working Machinery
for Results

■

SEND US YOUR INQUIRIES

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Toronto, Ohio

vision over the state highway system of more than 3,500 miles, which touches every county seat, city and state. The entire system is expected to be improved during a term of years. At the present time, in addition to the construction work in building improved roads, the commission maintains the highways of the entire system. This maintenance work has been carried on since the system was officially taken over by the state.

Booklet Shows Product's Merits

The slogan of the "Chicago Tribune"—"1921 Will Reward Fighters" is being recognized as a piece of sound business reasoning. The days when business came to the manufacturer are over and he must now go after it. Advertising is one of the most effective ways to lay the foundation of a good sales campaign and money spent on good advertising is always a good investment.

The Crawfordsville (Ind.) Shale Brick Co. is evidently a believer in the value of good advertising and has printed a booklet setting forth the merits of its product "Afghan Vertical Ruffs." The book is very well gotten up and well illustrated with residences, public buildings and industrial buildings for which the company has furnished the brick. It has sixteen pages and in addition to the illustrations contains interesting information adequately setting forth the charm of "Afghan Vertical Ruffs."

Brisk Demand for Drain Tile in Kentucky

"Drain tile business," said T. Bishop, of the Southern Brick & Tile Co., Louisville, Ky., "has been much larger than anticipated. In fact we sold all the stock we had and would have sold more if we could have supplied it, as we were not figuring on the demand being as great as it was. Kentucky farmers are reclaiming a great deal of good land, which at present is poor due to lack of proper drainage facilities, and this end of the business is promising."

Western Kentucky Clay Men Meet

J. Crow Taylor, secretary of the Kentucky Clay Products Association, was recently in Henderson, Ky., for a meeting of the Western Kentucky district clayworkers, the meeting being attended by brick and clay men from Evansville, Paducah, Owensboro, Henderson, Madisonville, Hopkinsville and neighboring towns. It is reported that some interesting discussions were heard, and some new members secured for the state organization. Mr. Taylor at present is in Lexington, Ky., attending a meeting of the Kentucky Retail Coal Dealers' Association, of which he is also secretary.

Louisville Protests High Coal Freight Rates

Altho the coal market is holding rather firmly just now, Louisville and Cincinnati brick manufacturers have been hit by a raise in freight rates, while Lexington, Ky., manufacturers have been given a reduced rate. Some weeks ago the Lexington, Ky., consumers started a fight on coal rates, the rates then in effect to Lexington, Ky., from Southeastern and Eastern Kentucky being as high as to Louisville, altho the haul was much shorter. The Louisville & Nashville R. R., after considering the protest, decided to reduce the rate to Lexington and increase the rate to Louisville and Cincinnati, resulting in a greater revenue for the road. The new rates go into effect on June 16, and a good deal of coal will probably be moved before that time in order to save the increase.

These increases removed the former differential allowed between high grade and low grade fuel, or prepared size and screenings. The new rates are flat rates, calling for the same amount of freight on all grades, which results in a comparatively small advance in prepared sizes, and an advance of as much as thirty-three cents a ton on screenings. The Louisville Board of Trade, backed by a number of large shippers, will file protest with the Kentucky State Railroad Commission and Interstate Commerce Commission, and the Cincinnati interests will take similar action in Ohio. The change brings rates on Eastern Kentucky coal over the L. & N. railroad up to about the same figure as West Virginia fuel moving in over the C. & O.

Labor Controversies Continue in Boston

Resumption of building operations in Boston in some measure as a result of the open shop announcement of the Building Trades Employers Association, has brought about a somewhat better demand for brick but manufacturers and dealers would like to see a still further improvement. Refusal of union teamsters to deliver brick that is to be handled by non-union bricklayers is one disconcerting feature of the situation. The price in Boston continues at $23 delivered on the job.

To Add 20,000 Brick to Plant Capacity

Announcement has been made here that the Johnson County Brick Co., west of Knob Noster, Mo., will soon enlarge and improve its plant until the daily capacity can be increased from 30,000 to 50,000 brick a day. One updraft kiln, with a capacity of 330,000 brick is in the course of construction. A large amount of new equipment is being installed and a gas locomotive will be purchased with which to transport the raw material to the plant.

Recently the corporation was reorganized with the election of the following officers: President, W. J. Mayes; vice-president, G. C. Stephens, Kansas City; treasurer, Frank L. Mayes; secretary, S. C. Garrett. All officers also are members of the board of directors.

At present the plant is turning out common and matt face brick of variegated colors. The kilns that will be installed and the new machinery will enable the firm to manufacture high-class face and fire brick. Plans also are being made to manufacture hollow tile at the plant in the near future.

Ohio Company Incorporates

The K.-W. Brick Co. of Youngstown, Ohio, has been incorporated with a capital of $150,000. Incorporators are J. Whittaker, Francis J. Kramer, J. R. Waring, E. W. Davis and Henry E. Davis.

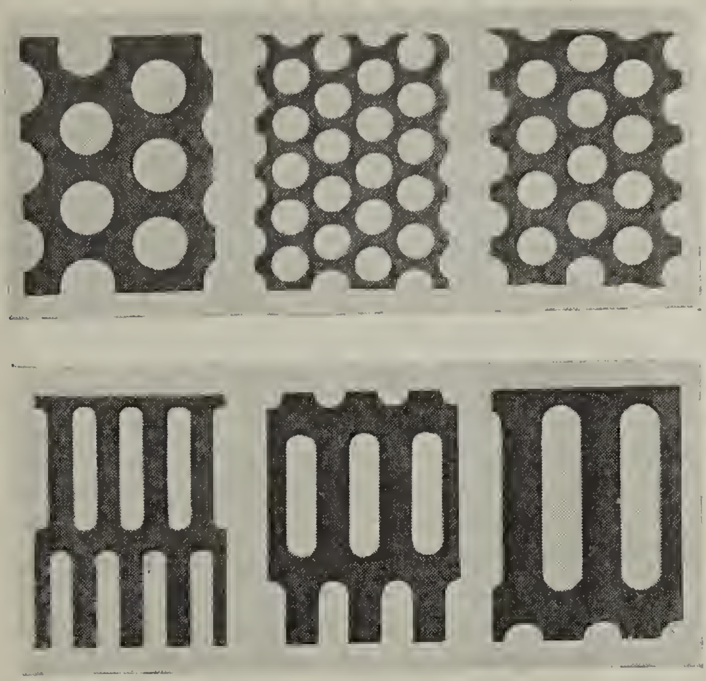
Clever Advertising by Pamphlet

Literature of an interesting nature is being circulated by the Dunn Wire-Cut Lug Brick Co., of Conneaut, Ohio. A little pamphlet entitled "Do You Know?" sets forth the advantages of the wire-cut lug brick and the practices and opinions of various engineers, state highway departments and so forth, regarding uniform spacing in the laying of paving brick.

Ohio Common Brick in Fair Demand

There is a fairly good demand for common brick in Columbus and central Ohio territory. No important changes have taken place in the past fortnight. Shale common brick are selling for $20 delivered, while sand mold brick can be purchased for $18 to $18.50 delivered on the job. The supply for all purposes is adequate and shipments are made promptly.

The face brick market is rather quiet, with the demand decreased during the past few weeks. The spurt of three or four



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For Screening Clay, Shale, Sand, Gravel, Stone and Cement

All sizes and shapes of holes in metal of proper thicknesses to give the best screening results.
Sheets furnished flat or rolled to shape for revolving screens.

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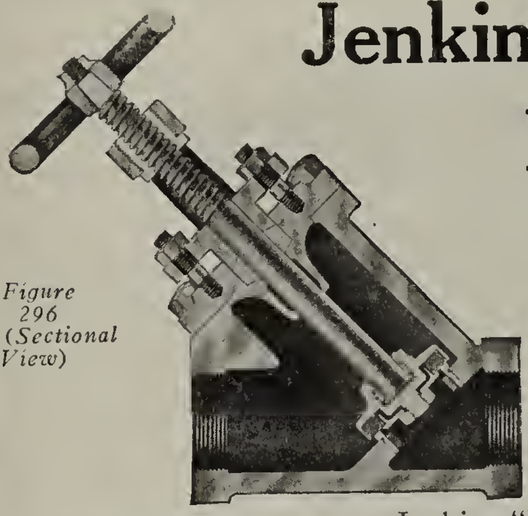

Figure 296 (Sectional View)

Figure 296

Jenkins "Y" or Blow-Off Valves

Iron Body Standard Pattern

Jenkins "Y" or Blow-Off Valves are strong and rigid, and on account of the full, straight opening, offer practically no obstruction to the free passage of steam or fluids.

Extensively used and recommended for boiler blow-off systems, and for use on lines carrying thick fluids.

Look for the name and "Jenkins Diamond Mark" on the body.

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JENKINS BROS.

New York Chicago Montreal Boston Pittsburgh London Philadelphia San Francisco St. Louis Washington Havana

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2281-J

Jenkins Valves SINCE 1864

ATTENTION:

You too, can save money as does the Dominion Sewer Pipe and Clay Industries Ltd. of Canada.

The above named company have written Brick & Clay Record as follows:

"Replying to your inquiry, we are unloading coal with our Godfrey Conveyor at from five to six cents per ton. You will recall that we carry the coal over a building thirty feet high and place it quite close to our kilns; formerly it was thrown off by the railway track and had to be drawn up hill, everything considered we are saving at least thirty cents per ton."

Godfrey representatives in your territory will be glad to make estimates and recommendations without any obligation to you whatever. Just tell the Godfrey Conveyor Co. when and where.

ADDRESS THEM:

Godfrey Conveyor Co.

102-122 13th St., Elkhart, Indiana

New York Branch:
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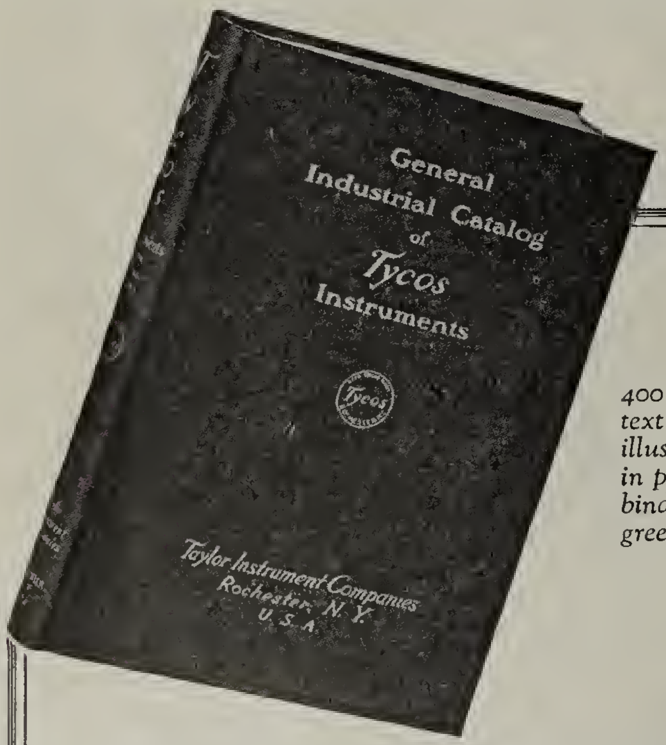

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Taylor Instrument Companies
ROCHESTER, N. Y.

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weeks ago has subsided and there is a good deal of work required to make a sale of face brick. Prices are rather weak. The cheaper grades are selling at $25 while the medium grades are priced at $30. The higher grades run as high as $36.

Workmen Accept Wage Cut

Eighty men who refused to accept a wage cut of five cents an hour at the plant of the Dover (Ohio) Fire Brick Co., returned to work recently, accepting the new wage of thirty-five cents an hour. Altho wages were cut to thirty-five cents at the plant of the National Fire Brick Co., none of the employes walked out. Wages have not been reduced at the Crown or Columbia fire brick plants.

First Unit in Big Merger Completed

The Canton, Ohio, plant of the proposed $1,500,000 merger of the brick and fireproofing industry, financed by Tuscarawas county capital, has been completed. Brick will be manufactured there soon. The plant is still being operated as the Canton Brick & Fireproofing Co. Plans are ready for the erection of a plant at Midvale, Ohio, which will be in operation late this summer.

Settlement of Cleveland Strike Expected

At the end of the first week of the general strike of building trades operatives in Cleveland, Ohio, settlement of the dispute over reduced wages, an average of twenty per cent. seemed as far away as it was a month previous. Representatives of both the Building Trades Employers' Association and the Building Trades Council, parent labor body, were of the opinion, however, that a settlement would be reached before very long.

Shale Brick Co. Working Steadily

The plant of the Shale Brick Co., of Columbus, Ohio, manufacturers of common brick and scratch face brick, has been in operation since April 4 with a full capacity of 25,000 daily.

The plant was closed down since early in the year for repairs and additions. A steam shovel was installed and steel cars were purchased in which to haul the clay. In fact everything was done to increase the efficiency of the plant. John W. Wilson is head of the company and S. A. Booker is superintendent.

Remarkable Building Activity During April

The building department of Columbus, Ohio, of which Inspector German is head, in a report covering the month up to April 25 shows that permits for 102 dwellings were taken out in the month as compared with 56 permits for the entire month of April, 1920. It is believed that the month of April will be one of the record breakers as far as number of dwellings started is concerned. The total number of permits issued during the month up to April 25 was 515, which is another record. There were many garages included in the last number.

Men Plentiful at Low Wages

Altho since April 1, wages paid to laborers have been thirty-five cents an hour, from six to ten cents lower than wages paid at all but two sewer pipe works in Canton, Ohio, there is no trouble getting men, according to the superintendent of the Diamond plant of the American Sewer Pipe Co. Two wage cuts have been made since March 1. Orders are plentiful and the plant is shipping five cars of sewer pipe daily. The fire brick market is poor, one plant in the Strasburg field stocking from eighty to ninety per cent. of its output.

Find Excellent Demand for Sewer Pipe

The sewer pipe works of the Robinson Clay Products Co. at Midvale, Ohio, is making record shipments. Last Saturday ten car loads of sewer pipe were shipped and the day previous six cars were forwarded, the daily average for the last three weeks has been seven cars. During the month of April, 1920, only 136 carloads were shipped. Other sewer pipe plants report gains the past two weeks. Plants are operating with almost normal forces. Few orders are being received for building and paving blocks.

Fitting up Office for Brick Display

The Gaddis-Harrison Brick Co., of Columbus, Ohio, which secured a long time lease on a dwelling and large lot at Fifth and Broad Streets, announce that it will have the first floor remodeled for occupancy by June 1. This will give additional space for the large brick display which is being featured. The present offices of the concern are in the Brunson Building. Mr. Harrison reports a slight improvement in the demand for brick and other clay products, altho business is still quiet. People are evidently waiting to see what the labor situation will be after May 1.

Drain Tile Men Planning Publicity Campaign

A meeting of the Ohio Drain Tile Association was held at Lima, Ohio, April 20 with about thirty-five present. The principal matter under discussion was the publicity campaign which was outlined by the special committee consisting of Leo Childs, of Findlay, W. H. Lewis, of North Baltimore, and W. P. West, of Columbus. After hearing of the plans the association voted the committee authority to proceed. The committee will send out six pamphlets showing the uses to which drain tile can be placed. It is planned to publish this publicity in book form some time soon.

Denison Concern Holds Annual Conference

Officials, licensees, dealers and branch managers to the number of sixty gathered for the annual conference of the Denison Interlocking Tile Corporation of Cleveland, Ohio, at Morrison Hotel, Chicago, recently, and planned for the coming 1921 season. Representatives from as far west as Seattle and as far east as Florida were present. A general discussion of building conditions was held, and while opinions were about equal as to building situation thruout the country, the turn of the tide was noted by practically every one present. Besides officials, B. J. Johnson, editor of the "American Builder," was a speaker.

Doing Record Breaking Sewer Pipe Business

The Royal sewer pipe works of the Robinson Clay Products Co., at New Philadelphia, Ohio, the largest plant of its kind in the world, is turning out a record business for the post-war period. On May 5 ten carloads of its products were shipped. On May 6 six were loaded and shipped. Up to May 6 230 carloads had been shipped out this month, compared with 136 for the same month in 1920. Other sewer pipe works are showing a corresponding business. Building block and fire proofing is not so active, officials in this district report.

Ohio Inclines Toward Brick Roads

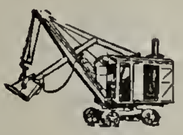
Indications are that more brick highways will be built in some of the eastern counties of Ohio than for a number of years. County Commissioners in these counties favor a brick-surfaced highway, but during the war period other methods of construction were followed.

Jefferson County, Ohio, of which Steubenville is the county

"We could not get along without our ERIE. We are well pleased—it is doing fine work." Brooklyn Brick Co., Indianapolis, Ind.

"WE'RE LOADING 50 tons of stiff clay per hour with our ERIE, and much pleased with its operation. It has proved very satisfactory in every way." *Des Moines Clay Co., Des Moines, Ia.*

Just one of the many letters in our files showing the results clay products manufacturers are getting with the ERIE Shovel. We will be glad to send you more of them—also photos of the ERIE excavating stiff clay and shale; unloading coal and piling it for storage, etc. Write for Bulletin "B."



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Builders of ERIE Revolving Shovels and Locomotive Cranes.

ERIE Revolving Shovels
BALL Engine Co. Erie, Pa.

You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

The Roessler & Hasslacher Chemical Company

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Dryer, Transfer and Clay Cars, with Flexible Bearings. Switches, Turntables and Track.

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COLUMBUS, OHIO

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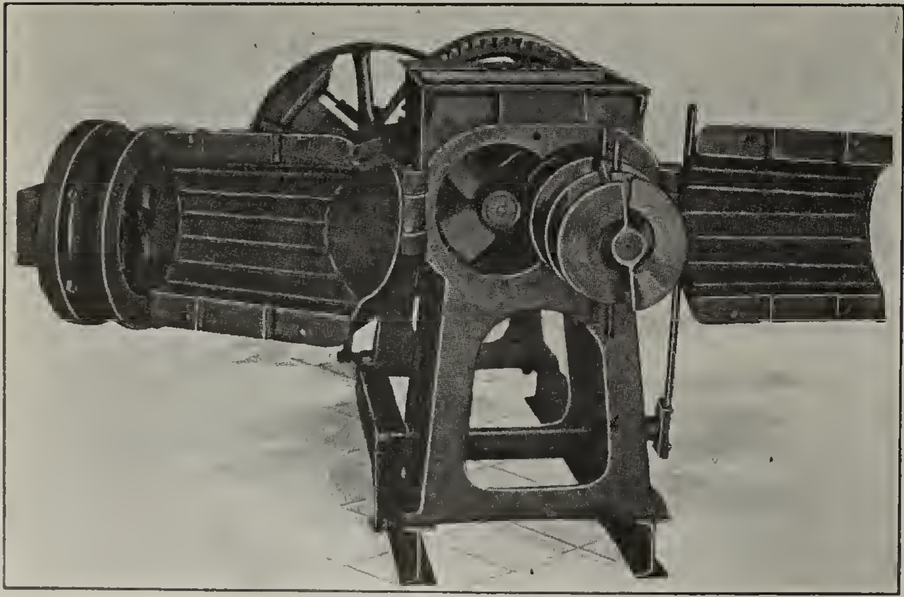
Look This Machine Over



SEE Those two shafts.
How the clay MUST move forward.
That hinged barrel.
How easy to clean.
How easy to change augers.
That patented sleeve to prevent lamination.
What CLAYCRAFT SERVICE can do for you.

GET ACQUAINTED WITH CLAYCRAFT SERVICE.
WE DO IT THE MODERN WAY. WRITE US.
OUR ADVICE COSTS YOU NOTHING BUT POSTAGE.

CLAYCRAFT SERVICE CO.
503 Wainwright Bldg. St. Louis, Mo.

seat, will put over six miles of roadway this season, while Columbiana County, of which Lisbon is the county seat, has about ten miles of program ready, for which much state aid has been assured. The Commissioners of this county favor brick highways against all other construction.

Brick leads in the construction of roadways in Stark County, of which Canton is the county seat, and of the 128 miles of improved highways in that county, all but forty-two miles are of brick.

About ten miles of brick road are to be built on the Lincoln Highway in Beaver County, Pa., of which Beaver is the county seat, to connect with the paved highway at East Liverpool and the Ohio-Pennsylvania state line.

Hancock County, West Virginia, of which New Cumberland is the county seat, has a large brick road program under consideration for this year. Up to this year it has been hard to get contractors to bid on roads, but the situation this season is different.

Bolivar Clay Products Increases Capacity

The Bolivar Clay Products Co., Pittsburgh, Pa., has filed notice of increase in capital from $100,000 to $225,000 for general extension in operations.

Has Several Weeks' Orders on Hand

The Ridgway (Pa.) Brick Co., resumed production at its plant the first week in May, following a shut-down for about four months past. It is said that orders coming in insure production for some weeks ahead.

Unions Refuse Wage Reductions

The entire union building craftsmen of Philadelphia are on strike following the flat reduction in pay of twenty-four per cent. which the operators put into effect May 1. Both sides announce that 65,000 men have laid down their tools. The unions state they are prepared to hold out indefinitely against the reduction.

Clay Mining Company Organized

The Fairton Clay & Sand Products Co., Lansdale, Pa., has been organized with a capital of $40,000 to operate clay properties in this section; the company will engage in a general clay mining business, handling sand and other by-products. It is headed by Edwin B. Reed, Lansdale; Hugh J. Maguire, Pelham, Pa., and John F. Caroll, Overbrook, Pa.

New Silica Brick Plant in Operation

The Van Dyke Silica Brick Co., has inaugurated operations at its new brick plant at Van Dyke Station, Juniata County, Pa. The plant will be devoted to the production of high-grade brick products. The principal office of the company is at Johnstown, Pa. Henry Y. Haws is president; Frank D. Phillips, secretary and treasurer; and William H. Haws, general manager.

Hollow Tile at Lowest Point

In discussing the hollow tile market, J. F. Huston, Philadelphia, Pa., district manager for the National Fireproofing Co., says that the present cost of the material is just about one-half of that of last year and below the level of any figure during the past four years. It is set forth that the price cannot go lower, and when a demand is evidenced, it is more than likely to go to higher levels.

Pittsburgh Planning Big Housing Project

Handlers of building materials in Pittsburgh, Pa., are not doing much at the present time, but if inquiries on prices and stocks are any indication of future business, the day is nearing when briskness in building will be the rule rather than the exception.

The biggest building project in the city, in the hands of a special committee of the Chamber of Commerce, is to provide between 1,500 and 2,000 houses. The launching of the project, a member of the committee told members of the Builders' Exchange at a luncheon last week, is being retarded by a failure to secure definite mutual guarantees between the various Pittsburgh contracting and labor interests. It was intimated that in case satisfactory arrangements could not be made with local interests, bids would be asked for from out of town sources.

There is one project in the course of organization to build a community in one of the select residence districts of the city. It is intended to build in the neighborhood of 180 houses, with garages and other modern conveniences.

The largest operation to have obtained a definite start is the erection of twelve double duplexes, estimated to cost $250,000. Subcontracts have been let for the construction of these buildings which will be the property of the United Housing Corporation, Robert Lewin, president.

New Company to Start up Soon

Manufacture of brick will be begun very soon by the Wellsboro (Pa.) Shale Brick Co. it is reported. This is a new company and it is now installing machinery preparatory to the beginning of operations. Large deposits of shale of reputed high grade have been leased and the product for the first will be building brick only. Later the concern may undertake the manufacture of paving brick if the market will warrant.

New Holdings Raise Capacity to 140,000 Brick

The Phenix Clay Corporation of Bridgeport, Texas, has taken over the plants and other holdings of the Bridgeport Brick and Tile Co. and the Wise County Coal Co. Included in the transaction is the brick plant of the former company and the coal mine of the latter. It is stated that the Phenix Clay Corporation will immediately place its acquired plant in continuous operation, thus giving it a total daily output of 140,000 brick. The company has outstanding contracts for more than 1,000,000 brick, it is stated. It will also operate the coal mine which it took over from the Wise County Coal Co.

Making Brick by Special Methods

The organization of the Bohemia Brick & Tile Co. has taken place recently. The new concern will take over a plant of the same name, it is said, and will operate a plant on Cedar Bayou, near Houston, Tex. The report states that brick will be made by a special process which is the discovery of James Pokorny, treasurer. Brick, tile and paving brick will be made thru a continuous mechanical process at a great reduction in cost over the older methods common in the industry, it is claimed.

The plant will have a capacity of 40,000 brick daily. The manufacturing process is said to be as follows: As the brick leave the press they are conveyed automatically into a succession of drying rooms and kilns. There are sixteen sections to the kiln each one a little hotter than the previous. The brick are transferred by means of a movable floor.

Big Clay Plant Is Public Utilities Concern

The little town of Millsap, Texas, boasts of having a brick plant which ranks high in the list of big producing plants. This is the Acme Brick Co. The plant is modern and completely equipped with its own power plant, generating about 300 horsepower and furnishing sufficient current to take care of the lighting system of the town also. The plant

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DURABLE
ECONOMICAL

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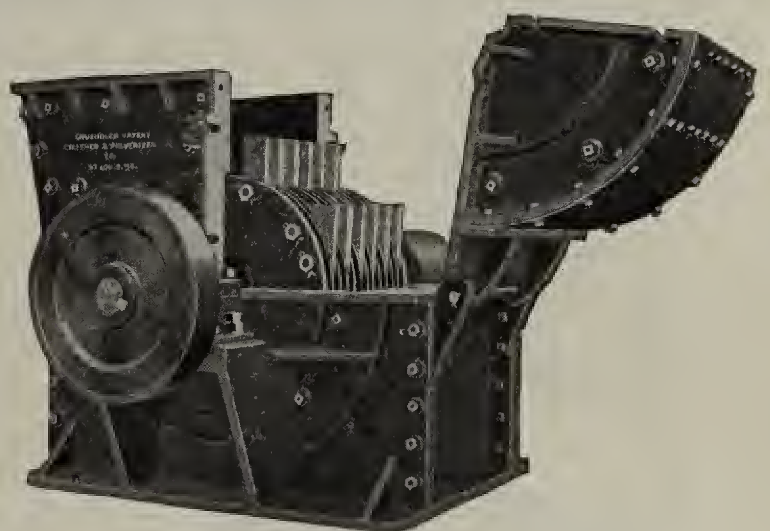

Gruendler Hercules Swing Hammer Crushers

FOR EVERY CRUSHING NEED

In Dry press brick plants Gruendler Crushers are pulverizing hard shale, clay and brick bats with greater moisture content and to more uniform fineness than dry pans—it is frequently possible for one Gruendler to replace as many as 3 dry pans and insure a greater capacity with smaller horse power requirements. Products are thoroughly mixed and upkeep costs are negligible.

Write for Full Particulars

We welcome any questions or problems that have to do with crushing, grinding or pulverizing operations of any character and will gladly give you the benefit of years of specialized and exclusive experience in this field.

Gruendler Patent Crusher & Pulverizer Co.
924 North Main Street ST. LOUIS, MO.

Save Handling Expense!

CUT spoilage and handling costs in half. Use the Barrett System. Place your green or finished tile, or complicated ornamental pieces, on racks. Roll your Barrett Lift-Truck under the rack—lift the entire load with a single stroke of the handle. Move it where desired and unload in a second by means of the Barrett release check which lets the load down softly and gently.

Barrett Lift-Trucks with Spring-frame and Rubber Tires will save you money.

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PEABODY COAL COMPANY
FOUNDED 1883
OPERATING 36 MINES WITH ANNUAL CAPACITY OF
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WE MINE AND SELL
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OMAHA KANSAS CITY SPOKANE, WASH.
PEORIA MINNEAPOLIS SHERIDAN, WYO.

"PEABODY FOR SERVICE"

is divided into two parts, one for the manufacture of brick, with a capacity of 69,000 face brick per day, and the other to make hollow building tile and turning out approximately 150 tons daily. The material is burnt in eighteen round down-draft kilns and the common brick in two kiln sheds with a combined capacity of about 700,000.

The company is very versatile in its activities and has considerable responsibility in the community, furnishing electric light, water power, houses and roads. A general store and up-to-date hotel are operated for the benefit of the employes. The school was also built and financed by the Acme Brick Co., altho conducted in the name of the school district. The upper floor of this building is used as a "movie" theatre.

A variety of shades in face brick ranging from light red to blue-black are produced in six different textures. The normal yearly output of the company is 15,000,000 brick and the largest single month's production of face brick is 1,712,000.

Operating Part Time Schedule

The Drury Brick & Tile Co., of Essex Junction, Vt., is now operating temporarily on a three day a week schedule and will resume in full somewhat later in the season.

Plant Completely Destroyed by Fire

The plant of the Barboursville (W. Va.) Clay Manufacturing Co. was practically destroyed by fire recently. The origin of the fire was unknown. Altho every means of fighting the fire which the town afforded were used, efforts to save the plant were unsuccessful.

Brick Has Fine Display at Winnipeg Show

At the Winnipeg Building Show held during the week of April 2, the Winnipeg Brick Co., Ltd., had a fine brick display including a brick hollow wall, mantles and chimney flue lining.

Builds Economical Clay Handling System

Wm. Burgess, superintendent of the Don Valley Brick Works, has just completed a most economical clay handling outfit and storage. It is handled from pulverizer to storage and to brick machines by elevators and belt conveyors and has a capacity of 70,000 wire cuts per day.

Standard Clay Products in 1921 Earns $75,000

The annual report of the Standard Clay Products Ltd., St. Johns, Que., and New Glasgow, N. S., shows that in 1920 a very satisfactory year's business was done. Bond interest and depreciation have been earned and the sum of $16,857.81 has been added to the surplus account which now stands at $137,805.30. The total earnings for the year were $75,348.97. The output for the year, owing to coal shortage and slump in building operations, was about seventy per cent. of capacity, but the directors expect increased activity in 1921.

George Cutbush Leaves Don Valley Company

George Cutbush, who has been with the Don Valley Brick Works, Toronto, for the past sixteen years, eleven years of which were spent as head burner, has severed his connection with that company to take up the installation of his patent system of continuous down-draft kilns. He installed the system at the Don Valley Brick Works and is now putting it in operation at the plant of the Sydney (Man.) Brick & Clay Products Co., of which S. B. Stedham is works manager. Mr. Cutbush has given several papers on burning, on which he is an authority, before the Canadian National Clay Products Association. When thru at Sydney, Mr. Cutbush will consult on an Alberta installation.

Clay Company Established in Toronto

The Atlas Brick Co. Ltd., Toronto, has been incorporated with a capital of $315,000 to carry on the business of manufacturers of brick, terra cotta, tile, sewer pipe, and so forth. The provisional directors are lawyers in Montreal.

Exhibit Shows Varied Kinds of Pottery

Toronto Technical School had an excellent exhibit of ceramics and pottery a week ago. The glazes ran the gamut of blues, greens and yellows. Among this output of the potter's wheel were candles, bowls, flower holders adaptable to the arrangement of every kind of flower, and so forth. There was a wide range and a larger display than last year. The exhibit was much admired.

15 Years Will Exhaust Toronto Clay Deposits

The passing of the anti-smoke law by the legislature of Ontario, Can., would have meant that brick manufacturers in Toronto would have been compelled to close their plants, had brick plants not been exempted from the law. Tho without doubt the smoke of the brick plants is a source of annoyance and inconvenience, yet this industry had a great deal to do with the growth of the city. Moreover the evil will not last forever as the clay deposits in the city, said to have been caused by disturbances during the glacial period, are not inexhaustible, in fact it is estimated that in from ten to fifteen years these deposits will have been depleted. The brick industry is quite an important part of Toronto's industrial system, employing about 500 men and having approximately $7,350,000 involved. The annual output of brick is estimated to be about 45,000,000.

A. G. Dalzell with Clay Pipe Publicity Bureau

Arthur G. Dalzell who recently gave up his private practice in Vancouver, B. C., to accept the position of consulting engineer to the Vitrified Clay Pipe Publicity Bureau, Toronto, was born at Utakamund, Mysore, India, in 1869. He served for four years as an articled pupil at Middlesbrough, England, where his principals conducted extensive experimental work in the manufacture of brick and tile and the construction of special kilns.

In 1909 Mr. Dalzell was made assistant engineer of Vancouver in charge of sewer construction. In the ten years following he had charge of the design and construction of seven sewers including the first trunk sewer of that city.

He resigned in 1918 and took up private practice. As a town planning counsellor, Mr. Dalzell is putting forth efforts to have glazed ware and sewer pipe standardized.

In connection with the vitrified clay pipe publicity work, an aggressive advertising campaign is being carried on and booklets are being prepared for general distribution among municipal engineers.

Mexican Company to Reorganize

At a stockholders meeting of the Gomez Palacio Brick Manufacturing Co., called to meet at Gomez Palacio, Mexico, on May 29, steps will be taken to reorganize the company on a sound financial and business basis, preparatory to re-opening the large brick-making plant at that place. It is stated that provision will be made for repairing and enlarging the plant. It has been idle since the early days of the revolution. In former times brick manufactured by this company had a wide sale thruout Northern Mexico, especially in Torreon, Lerdo and Durango, it is stated.

A Company with Definite Ideals.

UNION FUEL COMPANY

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COAL is cheap now—and freight rates cannot be reduced suddenly.

GOOD authorities believe that no reduction can be made by the railroads before the first of the year—and possibly not then.

PROTECT yourself by securing your coal now, and thereby be able to compete in the cost of your product with others who buy their coal before the price advances.

THE UNION FUEL COMPANY, owning and operating six mines with potential capacity of 7000 tons a day, is well equipped to serve you in a way that will be satisfactory and profitable to you.

You will not be under any obligation in writing us.

UNION FUEL COMPANY
Union Fuel Building
CHICAGO
(Dept. 301)

CURRENT PRICES *of* COMMON BUILDING BRICK DRAIN TILE *and* HOLLOW BUILDING TILE

REVIEWING the price list below will show at a glance the unusual number of price changes thruout the country. Consistent with the continued readjustment and decline of freight rates, coal prices and wage scales, the clay products industry is still reducing prices. Reductions are not very great, in but a few instances the price of brick fell as much as $5, and in the case of some cities, New York, Scranton, Wilmington, Norfolk, Louisville, Nashville, Dallas, Columbus, and Indianapolis, an increase in the price of brick has been recorded.

The fact that the farmer is not as yet showing any tendencies to enter the market is partly the reason for a continued drop in the price of 4-inch drain tile. Reductions in about twenty-two of the cities listed below range from one-half cent to three cents.

Hollow building tile also shows a general tendency to reduce prices. Seventeen of the cities listed below reported reductions ranging from $4.50 to $32. The latter figure is that of Buffalo, a drop from $150 to $118 being registered. Four cities found it necessary to increase the price on 5x8x12 tile, over last month's rate.

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	28.00	.12	
Boston, Mass.	22.00	.153	68.50
Providence, R. I.	32.00	.16	
Hartford, Conn.	24.00*	.08	
New Haven, Conn.	23.50	.10	
New York City	18.40	.13	
Albany, N. Y.	25.00	.05	
Utica, N. Y.	27.25	.074	
Syracuse, N. Y.	20.00	.07	135.00
Oswego, N. Y.	[illegible]	[illegible]	
Binghamton, N. Y.	24.00	.06	
Elmira, N. Y.	30.00	.055	
Rochester, N. Y.	20.00	.075	100.00
Buffalo, N. Y.	25.00	.055	118.00
Jamestown, N. Y.	35.00	.085	120.00
Allentown, Pa.	19.50	......	
Erie, Pa.	26.00	.055c	120.00
Philadelphia, Pa.	20.00	.15	115.00
Pittsburgh, Pa.	20.00	.08	120.00
Reading, Pa.	21.50	.07	
Scranton, Pa.	25.00	.08	
Newark, N. J.	22.00	.09	120.00
Paterson, N. J.	20.00	......	
Trenton, N. J.	22.00	.10	
Wilmington, Del.	26.00	.10	125.00
Washington, D. C.	22.00	.08	130.00
Baltimore, Md.	25.00	.07	125.00
Norfolk, Va.	20.50	.10	200.00
Richmond, Va.	25.00	.10	
Huntington, W. Va.	18.75	.075	95.00
Fairmont, W. Va.	32.00	.06	120.00
Wheeling, W. Va.	25.00	.075	120.00
Atlanta, Ga.	12.50	.115	
Miami, Fla.	28.00	.12	200.00
Tampa, Fla.	23.00	.....	120.00
St. Petersburg, Fla.	21.00	......	140.00
Louisville, Ky.	20.00*	.045	101.10
Lexington, Ky.	21.00	.10	111.50
Memphis, Tenn.	16.00	.07	135.00
Nashville, Tenn.	18.00	.08	134.70
Birmingham, Ala.	23.00*	.07	116.00
New Orleans, La.	15.00	.08	
El Paso, Tex.	16.00	......	90.00
Houston, Tex.	23.00	.13	103.10££
Dallas, Tex.	20.00	.15	100.00
Topeka, Kans.	35.00	.105	110.00
Little Rock, Ark.	12.50*	.10	
Oklahoma City, Okla.	20.50	.04	88.50
Cincinnati, Ohio	18.00	.0708	75.50¶
Cleveland, Ohio	17.00	.061	70.00
Columbus, Ohio	21.00	.065	85.00
Toledo, Ohio	18.50	.06	100.00
Detroit, Mich.	18.00	.07	95.00¶
Evansville, Ind.	15.00	.031	80.00
Fort Wayne, Ind.	19.00	.05	110.00
Indianapolis, Ind.	21.00	.06	85.00
South Bend, Ind.	20.00	.04	115.00
Terre Haute, Ind.	20.00	....	
Bloomington, Ill.	22.00	.05	100.00
Chicago, Ill.	12.00	.06	93.75
Moline, Ill.	19.00	.085	100.00
Peoria, Ill.	18.50	.06976	78.00
Green Bay, Wis.	17.00	.04	110.00
Milwaukee, Wis.	15.50	.06	120.00
Grand Rapids, Mich.	18.00	....	
Minneapolis, Minn.	20.00	.07	116.00
St. Paul, Minn.	20.00	.07	116.00
Davenport, Iowa	25.00	.08	130.00
Des Moines, Iowa	22.00	.11	93.00
Sioux City, Iowa	19.50	....	90.00
Kansas City, Mo.	22.00	.0625	100.00
St. Louis, Mo.	17.00	.09	85.00
Lincoln, Neb.	21.00	.08	77.00
Denver, Colo.	14.00	.08	165.00
Butte, Mont.	16.00	.....	
Los Angeles, Calif.	15.00	.05	100.00§
San Diego, Calif.	20.00†	.105	92.50§
San Francisco, Calif.	20.00	.05	112.00
Portland, Ore.	19.00	.085	100.00
Seattle, Wash.	16.50	.09	110.00
Winnepeg, Man.	19.00	.13**	181.00
Toronto, Ont.	18.00	.08	
Halifax, N. S.	20.00	......	
Quebec, P. Q.	18.00	.065	

Editor's Note.—The prices of the commodities listed above are reported as delivered on the job, and are, therefore higher than the plant prices. These prices are obtained from a sister publication, **Building Supply News**, and are sent to this paper by dealers in the various cities listed. **Brick and Clay Record** will appreciate any corrections. The cities in italics are those whose prices have changed.

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% disc., 15 days.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipment; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

PREMIUM COAL

The Exceptional Value of PREMIUM COAL for clay plant consumption has been demonstrated to the most discriminate.

Clay Plant Operators who made connections with us years ago continue to place their business with us without hesitancy.

Premium Coal **is—**

- **HIGH in HEAT UNITS.**
- **LOW in SULPHUR.**
- **EVEN in COMBUSTION.**
- **LOW in ASH.**

Mined in the district shipping the Highest Heat Unit Coal mined in Illinois.

DAILY CAPACITY 7,000 TONS

Tell us your requirements

Big Creek Coals, Inc.
Peoples Gas Bldg.
CHICAGO
Minneapolis **Galesburg**

"BIG CREEK"
for years has stood
for
SERVICE
and
QUALITY

What Is YOUR Contribution?

All smoke clouds are made of money, but not all heat wasted up the chimney can be seen in the smoke. It is excess air escaping into the combustion chamber that carries the heat units up the chimney, cools the gases of combustion, and causes smoke. But

PLIBRICO
JOINTLESS
FURNACE LINING

stops that waste. Its air-tight, gas-tight construction prevents air infiltration, short-circuiting of gases, and heat radiation. Use PLIBRICO and pay only for the coal you use. Then no cloud of unburned carbon will float away from your stacks.

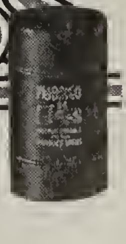
PLIBRICO is used in every case where laid-up fire brick is used, and with better results. Try it on a front-door arch or wall, or on baffle walls, and the saving effected will demonstrate the greater value of a complete PLIBRICO setting.

We guarantee a saving of time, money and fuel for those who install PLIBRICO.

Shipped in steel containers of distinctive appearance as shown below. Warehouse stocks in all principal cities.

Send for our booklet S 8 on Furnace Building.

JOINTLESS FIRE BRICK CO.
1147 CLAY ST., CHICAGO, ILL.



The BUILDING SITUATION *in the* EAST

INCREASING OPERATIONS prevail in construction circles in the eastern districts. The return to normal is slow—far slower than anticipated or predicted in the months past, but prosperity, unquestionably, is on the way. Manufacturers of building materials, dealers and prospective builders are coming to the point of meeting on common ground, with certain price uniformity, sufficient stocks and close co-operation in all other factors in carrying out building projects. The one distressing element in the situation is labor, and while "May day" strikes have not been of the extent expected, yet the interruptions have been serious enough to hinder operations in certain districts.

A comprehensive summary of the building situation at the present time has been arranged by Monks & Parsons, New York, architects and engineers, and it follows closely the various predictions made in these columns in *Brick and Clay Record* in recent issues. In the matter of costs, it is pointed out that, despite the apparent tendency to normal, there is every indication to show that material prices will not continue at present levels for more than a few months, and that they will then again swing upwards. The increasing trend will be temporary, but the reaction seems certain, and for what length of period is now indefinite.

REASONS FOR PRICE INCREASES AND DECREASES

In digest, the views set forth are highly interesting and instructive. The reasons for the increase in cost of construction since the war period are stated as:

1. Increased demand brought about by (a) return to peacetime industries, and (b) building shortage; 2, higher money rates; 3. failure of transportation system; 4. inefficiency of labor.

The reasons for the decrease as now evidenced are:

1. Lessened demand induced by (a) excessive money rates, (b) refusal of banks to loan money, and (c) lack of confidence; 2. improved transportation facilities; 3. increased efficiency of labor; 4. increased keenness of competition.

The reasons for expected increase are:

1. Increased demand brought about by (a) building shortage, (b) lower money rates, and (c) return of confidence; 2. lessened competition by contractors.

New England: Following the decision of contractors in the important cities in the New England territory to operate on an open shop basis for the coming year, there has been a decided spurt in operations. Numerous plans are now out for quotations on large projects, involving millions of dollars and calling for extensive quantities of brick and other burned clay products. Contracts, undoubtedly, will be awarded for considerable of this work at an early date.

BRICK SHOWS SLIGHT DECLINE

While the majority of important building commodities are holding well at prevailing levels at Boston, brick shows a tendency to decline. Connecticut production is being quoted at $26 a thousand by local material dealers, delivered, as against a $27 figure a fortnight ago. Hudson River stocks are securable at $23.50 and $24 on the job. Face brick, water struck, kiln run, is being turned at $40 a thousand, and rough texture varieties at $50. Terra cotta partition tile, 8x12 in. size, has dropped from $380 a thousand to $320. The smaller sizes hold at previous figures. Fire brick has experienced an appreciable drop in the last week, No. 1 standard now being quoted by dealers at $65 a thousand, as compared with a former $80 level, and very high grade material at $75, as against $90 in April. Flue lining is thirty per cent off list, and wall coping twenty-five per cent.

Providence, R. I., dealers still persist in higher-priced brick, and $32 to $35 a thousand is the popular average. Fire brick, No. 1 standard, varies from $90 to $110 a thousand at the local retail yards. Fire clay is selling for $1.75 a bag. Partition tile shows no change, with the $250 and $450 levels maintained for 4x12 in. and 8x12 in. stock, respectively.

NEW YORK SHOWS INCREASED ACTIVITY

New York: As recorded in recent issues of *Brick and Clay Record,* the tax exemption ordinance has had a remarkable effect in developing increased operations in the housing line in Gotham. All five boroughs show an advance, the building records indicating a 454 per cent. increase in apartment house construction since early in March, as compared with the same period of last year. Every week shows a steady growth in this line, and activities in Brooklyn seem destined to reach boom conditions if the activities increase along present lines. In the past eight weeks plans filed call for accommodation for 2,733 families, compared with apartments for 493 families in this time in 1920.

In the line of public work, the spirit is being shown to "go to it" in a substantial way. The Board of Estimate is getting down to business on the proposed school program, and an appropriation of $53,000,000 for new school buildings for the Board of Education is being arranged. With the popularity of brick for this character of work, the indications are for a heavy call for common and face material in the coming months.

LOCKWOOD COMMITTEE INVESTIGATION

The Lockwood Legislative Committee has reopened its investigation of the building industry at New York, and attention is now being given to brick manufacturers and mason material dealers. The Association of Dealers in Masons' Building Materials has pleaded guilty to a violation of the Donnelly Anti-Trust laws in restraint of trade, and Samuel Untermyer, counsel for the Lockwood committee, has asked substantial jail sentences for the interests involved. The same action has been asked in the case of brick manufacturers.

An attack is now being directed against the plumbing trade, including manufacturers and jobbers of sanitary earthenware and other plumbing fixtures, and efforts are being made to show that a close combine, extending from coast to coast, exists in this branch of the industry, with a capitalization of about $300,000,000 represented.

BRICK PRICES HOLD STEADY

The New York brick market is existing on anticipations, for current business is not of a scope to warrant much enthusiasm. Dealers, previously, have stocked up, and are in position to supply all current requirements. The call is not of sufficient extent to require immediate replenishing in full of stocks absorbed. The wholesale market has but little to offer in the way of reserves, for practically all available barge loads have been taken; the first week in May showed but two loads on hand. Prices are now well established at the $14 and $15 level, and the best Hudson River grades are securable at the latter figure. There is no quotation on Raritan brick in the local market at the present time. Dealers are asking around

The Gateway to Better Things

BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men— in the only way that he can—in books. If you would be master of your work you must read and know what others know.

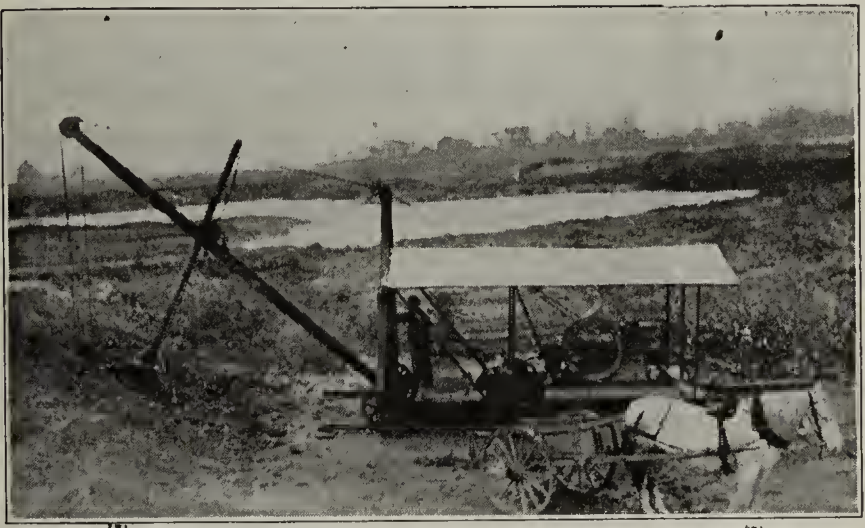
Bricks and Tiles	$1.50
Brick Drying (English edition)	1.00
Bricklaying in Modern Practice	1.20
Bricklaying, Rudiments of Practical	.75
Bricklaying System	4.00
Brick Work (Walker)	.85
Brickwork and Masonry	3.00
Building Construction and Superintendence, Part 1, Masons' Work	6.00
Bungalows, Camps and Mountain Houses	2.00
Ceramic Industries (A Treatise on) E. Bourry	6.00
Clay Plant Construction and Operation	4.00
Clays: Their Occurrence, Properties and Uses	5.00
Clayworkers' Handbook	6.50
Clay Working Problems	1.50
Directory of Dealers	.50
Engines and Boilers	1.50
Engineering for Land Drainage	2.50
Estimating Frame and Brick Houses	1.50
Finding and Stopping Waste in Modern Boiler Rooms, Vol. 2	1.00
Garages and Motor Boat Houses	2.00
Glazer's Book	1.25
How to Build Up Furnace Efficiency	1.50
Land Drainage	2.00
Manufacture of Roofing Tile, (English Edition)	1.25
Manufacture of Roofing Tile (Worcester)	.75
Modern Brickmaking	7.00
Pottery	1.25
Powdered Coal as a Fuel	4.50
Practical Farm Drainage	1.75
Producer Gas and Gas Producers	4.00
Refractories and Furnaces	5.00
Rock Excavation, Handbook of	5.00
Scientific Industrial Efficiency	2.00
Scumming and Efflorescence	.50
Silo (The Hollow Tile) 100 copies	5.00
Steam Power	2.50

Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent. import duty.

Address, Book Department,

Brick and Clay Record
610 Federal Street, Chicago, Ill.

Forget Your Clay Gathering and Pit Labor Troubles.



The One Man Excavator Will Help You to Cut Down Expenses, Increase Production and be Independent of Labor.

For the average small clay plant there is no better way of winning clay, than by installing the ONE MAN EXCAVATOR.

It requires only one man to operate, and will dig enough clay to keep a "140,000 per day capacity" plant on the "go" every minute.

THE RUGGEDNESS, ECONOMY, SIMPLICITY AND DEPENDABLITY of this machine makes it truly efficient for your plant.

Information sent on request
No obligation

Bay City Dredge Works
2613 Center Ave. BAY CITY, MICH.

$19 for the material delivered. Second-hand brick is selling for $45 a load of 3,000, delivered.

The price quotations on various burned clay building products in the New York market show little, or no change. There is a strong tendency to hold the present figures, and there is no evidence of price cutting on the part of the leading dealers to secure business.

NEW JERSEY ACTIVITY HABITATIONAL

New Jersey: The housing movement is taking precedence over all other building work in the different cities in New Jersey. Apartment houses are topping the list of building permits, particularly in the Newark district, including the Oranges and other suburban sections. Public work in this latter territory is also coming along in good fashion. The Board of Education is arranging a program which calls for the erection of a number of brick additions to present school buildings, with total outlay estimated at over $2,000,000.

Construction at Trenton is advancing to a better point, and a number of projects of considerable moment are coming to light. The State House Commission is planning for the erection of three new buildings at the Trenton Fair Association grounds to cost about $80,000. These will be of hollow tile and face brick construction, for farm exhibit service. Members of the Trenton Real Estate Board have tentative plans under way for an "Own Your Home" exhibition in the city, to be operative for a week's period. It is believed that such a show will do much to encourage a movement for house construction thruout this district.

THE LABOR SITUATION

The first of May has brought about inactivity in certain branches of the building trades at Newark, owing to the refusal of employes to agree to a wage reduction varying from $1 to $2 a day, as arranged by the Building Trades Employers' Association. The employers are making an effort to stabilize local conditions in the trade, and have adopted a schedule of $9 a day for bricklayers, masons and plasterers, instead of $10, as heretofore; $5.60 a day for hod carriers and masons' laborers, as against $7 in the past. Carpenters and painters remain at $8 a day.

Similar difficulty is evidenced in the Raritan River section, where a wage cut as outlined by the Building Trades Association has been rejected by the union workers. A strike was declared on May 1, and many men are idle. Workers in the Hackensack district have refused to abide by reduced wages, varying from eighty-five cents to $1 a day, and a strike is now on against the change. Master builders at Elizabeth and Plainfield have decided to make no reduction in wages at the present time.

THE MATERIAL MARKETS

There is no noticeable change in the building material markets in the different New Jersey cities. Prices are fairly well established, except in the line of lumber, and while there is talk of lower levels in mason's materials, it is not likely to come about for a number of weeks. Common brick is ranging from $21 to $23 a thousand in the Northern and Southern parts of the state, respectively. Prices at the kiln in the Hackensack district vary from $18 to $19, and a shade higher at Trenton. The seasonal yards are commencing to start up and push operations.

Philadelphia: Construction operations in the Quaker City are again handicapped by labor difficulties, and since May 1 a strike has been on in different branches of the industry. Master builders have followed out their intentions of reducing wage scales, recently noted in *Brick and Clay Record,* effective May 1, and the men have entered a decided protest. The employers have adopted three resolutions of important moment in regard to the situation, these being: 1. Reduction of wage scales to natural readjustment following peace, a decrease of twenty-four per cent. under the present scale; 2. The open or closed shop becomes a matter of choice to the employer; 3. The sympathetic strike plan of the unions, which has been in vogue locally for years, must be abandoned in the future.

$75,000,000 WORK WAITS ON LABOR

It is estimated that about $75,000,000 in construction work will be held up in the coming months unless an agreement is reached between the employers and employes, and the master builders are standing firm in their effort for the reduction; they say that no compromise is possible.

There is considerable building work in anticipation in the Philadelphia district. A number of industrial projects have come to light during the past fortnight, as well as no little amount of public work. In the latter connection, the Finance Committee of the Board of Education is arranging for the erection of nine new school buildings, with estimated cost placed at $5,000,000. House construction continues at a low point, and there is not a very encouraging outlook in this line.

Recent weeks have brought about considerable decline in building material prices in the Philadelphia district, with a general average varying from twenty-five to thirty-five per cent. below previous levels of a year ago. Common brick continues at $20 a thousand, while face brick varies from $40 to $55, according to selection. Fire brick is around $75 for No. 1 standard, and fire clay holds at $20 a ton. Miscellaneous products, such as wall coping, flue lining and drain tile are all at lower figures. Partition tile is selling from $175 and upwards a thousand, according to size. Hollow building tile is around $75 and $100, and in fairly good demand.

* * *

African Manufacturers Use "Sun Drier"

An interesting letter has been received in the office of *Brick and Clay Record* from R. Till & Son, Durban, Matal, South Africa. The company is making ordinary common building brick 9x4¾x3 at the present time. The machine turning out these brick is of English manufacture and turns out 20,000 brick daily. The concern has a plastic clay, very rich, so that it is necessary to tone it down to stop cracking in drying. This is done by mixing with a soft yellow, decayed stone.

The brick as they come out of the machine are taken on the hack line out in the open to dry. An iron roof protects them from the rain and hot sun.

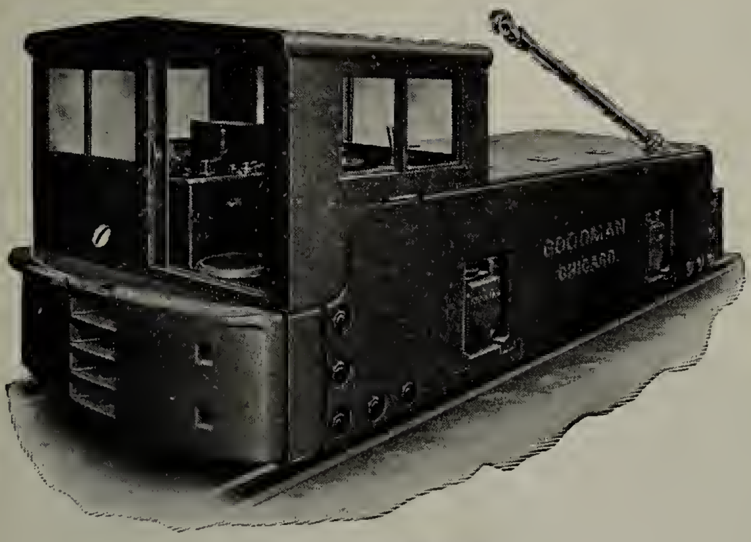
* * *

Ceramic School Proceeds with Building

Contracts will soon be awarded for the erection of the new ceramic school and research building at Rutgers College, New Brunswick, N. J. The plans and specifications have recently been completed and are now out for estimates. A meeting of the Building Committee of the New Jersey Clay Workers' Association was held at New Brunswick on Tuesday, May 10, and at which a number of details were arranged, including the securing of certain burned clay materials from state producers for use in the building. Professor George H. Brown, director of the Ceramic Department at the college, has arranged a list of equipment and machinery to be installed in the different departments of the new school, and orders will be placed at an early date.

CHICAGO
GOODMAN
MFG. CO.

Electric Locomotives



From 1 to 50 Tons

Have you noticed the ever-increasing number of clay operators who are electrifying their plants throughout?

There Are Reasons:
Efficiency,
Reliability and
Low Maintenance
are the main ones.

It is a large undertaking to change an entire plant, but it is a small matter to

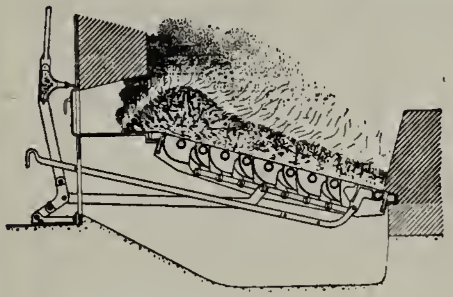
Haul Clay the Electrical Way

Write for details—today

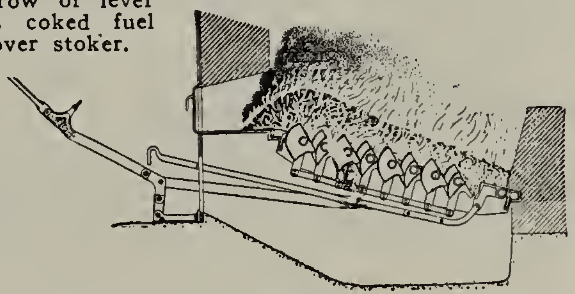
Goodman Manufacturing Co.
48th to 49th Streets on Halsted
CHICAGO ✦ ILLINOIS

(93)

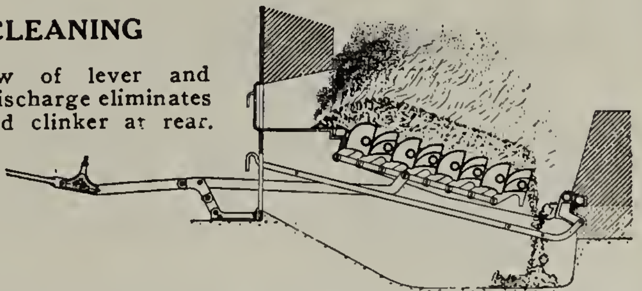
SAVE COAL
IN
BURNING BRICK
OR
MAKING STEAM
USE
COKAL
HAND
STOKERS



FIRING
Fresh coal laid on front. Gases must pass over fuel bed.



STOKING
Half throw of lever advances coked fuel evenly over stoker.



CLEANING
Full throw of lever and auxiliary discharge eliminates all ash and clinker at rear.

Burns any grade of coal and eliminates all cleaning periods. Used in kilns or boilers.

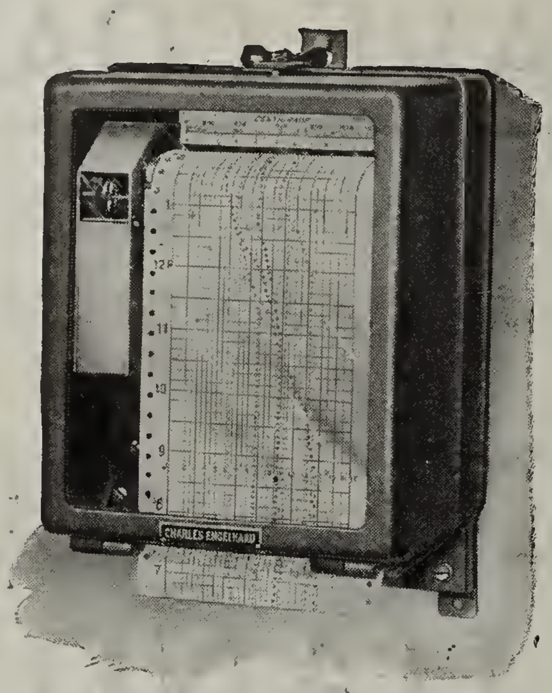
PROOF

From Logan, Ohio—"With shaker grates we used twelve cartloads of coal daily. With COKAL HAND STOKERS we cut down to eight cartloads and get 50 per cent more steam. The stokers paid for themselves in ninety days.

From Anderson, Ind.—"Saving 20 per cent of our fuel and getting an increase of steam capacity. Would not be able to pull with old grates what we are now pulling with the COKAL."

HUNDREDS OF BRICK PLANTS EQUIPPED

COKAL STOKER CORPORATION
1037 NORTH CLARK STREET, CHICAGO



Engelhard Multiple Recorder

The Engelhard—
A Multiple Recorder
That Records

Cannot Gum Up

The inking device is so arranged that the ink never comes into contact with the pointer. The chart paper is always between it and the ink roll.

Unfailing Ink Supply

Fifteen minutes attention four times a year will keep the inking device in good condition.

Light Load on Clock

All the clock has to do is move the chart and operate a small contact switch. The heavy work of recording and switching from one thermo-couple to another is done by electricity.

Pointer Cannot Stick

Our frictionless double suspended construction of the moving system insures this. It is standard in all Engelhard Instruments.

Engelhard Pyrometers Are Good Pyrometers To Standardize On

Charles Engelhard, Inc.
30 Church Street New York City

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

Combination Picking-Table and Loading-Boom Being Installed at Modern Coal Mines

Walter Bledsoe & Company, Terre Haute Trust Bldg., Terre Haute, Ind., have furnished us with the accompanying picture showing the modern combination picking table and loading boom which is standard equipment for the preparation of the Fourth Vein Coal produced at their new Bon Ayr Mine.

The coal passes from the shaker screen on to a slow-moving conveyor which gives to the men on each side of the picking table an opportunity to pick out any impurities which it may contain. The boom is raised and lowered by an electric motor so that when a railroad car is empty the lower end, which delivers the coal, is within a few inches of the bottom of the car. As the car is loaded the boom is gradually raised and in this way the coal at no time falls more than a few inches. This additional expense for machinery and labor should be justified by the production of a fuel free from impurities and breakage.

Combination Picking Table and Loading Boom Described in This Article.

An Important Economy in the Handling of Clay Products

A simple but powerful truck, which is pushed under a load and by a single stroke of the handle lifts from one to two and a half tons, has completely revolutionized handling methods in many industries. In the manufacture of clay products it is not so well known, in spite of the fact that it is in this industry that its advantages are most apparent.

Manufactured goods or goods in process are put on pallets or inexpensive wood or steel platforms. In the case of green tile, brick or other clay shapes, etc., these platforms when loaded may be stacked one on top of another. The Lift-Truck is slipped under the bottom platform, lifts it off the floor, and the whole load wheeled away.

This Lift Truck, which is made by the Barrett Cravens

"We believe that these times more than ever demand of all of us THRIFT, INDUSTRY and HONEST SERVICE." We began our last advertisement here with these words and we may begin the next one the same way. We believe it is good to repeat such homely sayings.

One thing that "Honest Service" means to us is proper preparation of our product. Nature has made Indiana Fourth Vein Coal an excellent fuel for your use and we are fortunate in having some of the best that she has produced. We add to this, as a part of our service, human intelligence and modern machinery in cleaning, sizing and preparing our coal to meet your needs. We want to make new friends by truly serving them and we hope to hold our old ones in the same way.

Walter Bledsoe & Company

Home Office:
Terre Haute Trust Bldg.
Terre Haute, Ind.

Chicago Office:
Old Colony Building

Indianapolis Office:
Traction Terminal Bldg.

Cincinnati Office:
Union Central Building.

Four Mines Producing Indiana
FOURTH VEIN COAL

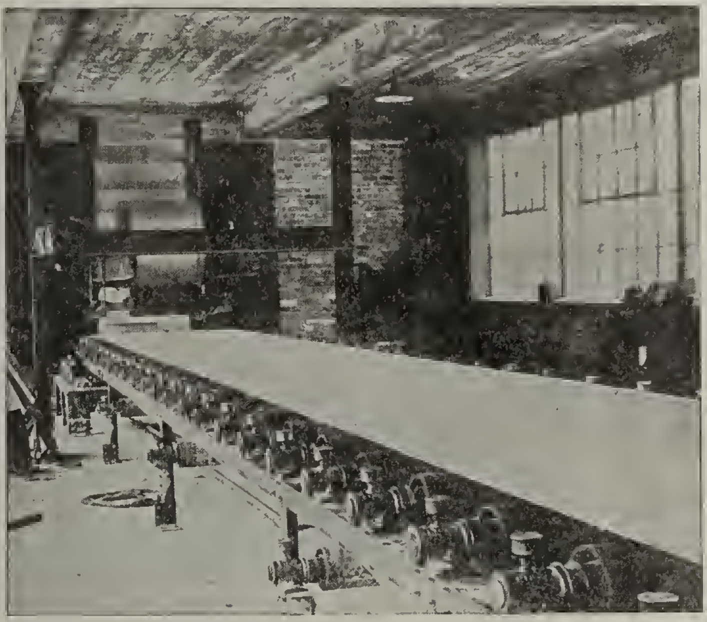
WELLER MADE CHICAGO

THIS MARK
ON YOUR EQUIPMENT
INSURES SERVICE

Weller Made Machinery

Handling the loose materials and finished products will enable you to increase the output and greatly reduce your operating expenses.

Equipment built to meet your requirements.



We Design and Make

APRON CONVEYORS
BELT CONVEYORS
BUCKET CONVEYORS
DRAG CONVEYORS
PAN CONVEYORS
SPIRAL CONVEYORS
BUCKET ELEVATORS
ELEVATOR BUCKETS
DUMP CARS
TRUCK DUMPS
STEEL HOPPERS
WELLER-MADE STEEL CHAIN
MALLEABLE CHAIN
PULLEYS—HANGERS
FRICTION CLUTCHES
COLLAR OILING BEARINGS
COAL HANDLING EQUIPMENT
OIL BURNERS

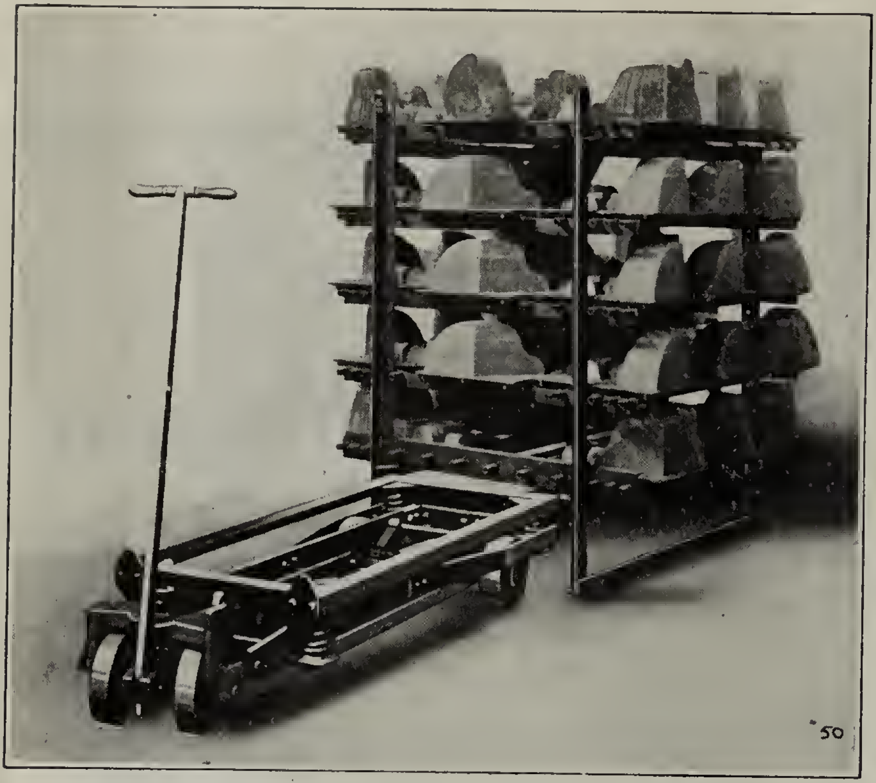
PRICES ON APPLICATION

WELLER MFG. CO.
CHICAGO

NEW YORK
BOSTON

BALTIMORE
PITTSBURGH

SALT LAKE CITY
SAN FRANCISCO



The Truck Is Backed Under the Loaded Platform and a Single Stroke of the Handle Lifts It.

Co., of Chicago, has a spring frame and is also rubber tired. This type of Lift Truck was made first for the glass industry, but its usefulness for the handling of clay products at once became apparent. Not only is the lifting and lowering motion of the truck gentle and easy, but the springs and rubber tires so far eliminate jarring that fragile products may be transported even over rough floors with safety. Hyatt Roller Bearing wheels are used.

Green tile, with walls less than an inch thick, is moved by the Barrett Lift Truck the minute it leaves the tile machine. The racks or platforms on which the tile is carried may be moved into and out of the bake oven, kiln or dryer, saving two handlings. Trackage for transportation of products is done away with. The use of storage cars is obviated, and in the case of fire brick it is pointed out that large hot floors are no longer necessary.

The Barrett-Cravens Co. are manufacturers of handling equipment of various types, including portable cranes, barrel trucks and the Powerox gas tractor and truck.

⁂

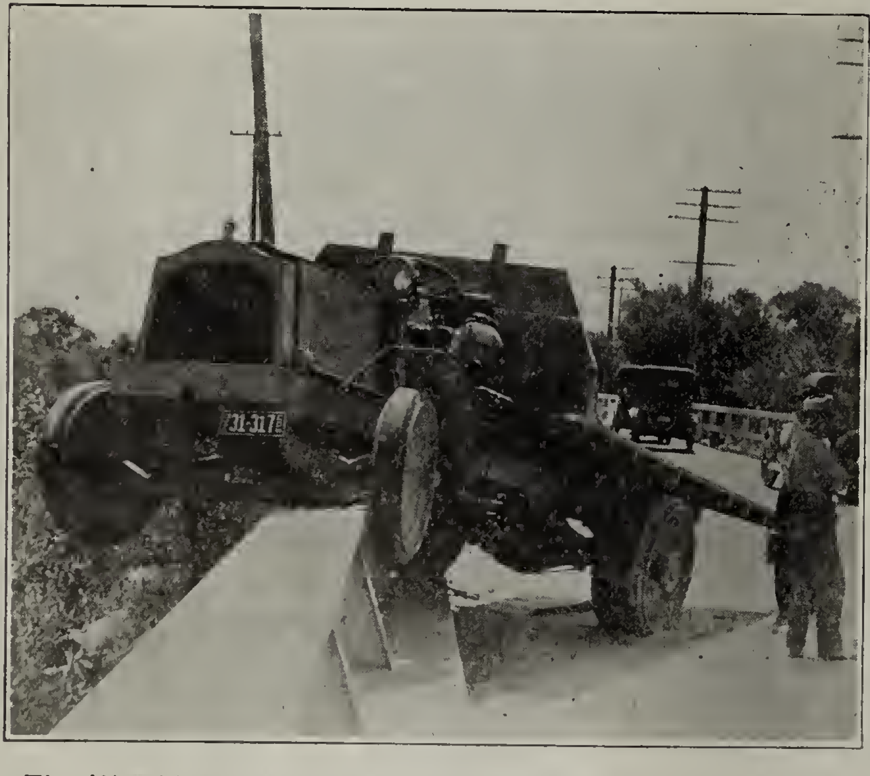
Packard Rescues Itself

A recent exploit of a big motor truck in rescuing itself after an accident on a bridge outside of Los Angeles will give to many people a new idea of the stability and trustworthiness of these vehicles.

The truck, which was a Packard, got into trouble thru the violation of the headlight law by the driver of a passenger car. It carried an eight ton load and had another eight tons on a trailer. Just as the driver started to cross a bridge, the passenger car, in trying to pass another one, pulled out sharply to the left, with headlights blazing and it both blinded the driver of the truck and also forced him over to one side.

The front right hub of the big Packard he was driving caught a fence post, and the wheel, after climbing a ten inch concrete curb around the base of the steel bridge rail, climbed over the end of the rail, ran along the top for several feet, and then with front wheel riding the rail, the truck moved down the bridge for more than its own length. When the truck stopped, the rear wheels were on the bridge and one front wheel and the radiator were about five feet higher and hanging over the edge of the bridge rail.

After a wrecking crew had given up the job of putting the truck back on the road, the driver decided to see what he could do with the truck itself. So the engine was started and the truck backed up, sliding the front axle along the top of the rail in spite of the heavy bolt heads that impeded its progress. The truck was finally pulled clear across the bridge rail and the whole front end was dropped about three feet to the bridge floor. In spite of this, inspection showed that the only damage from the accident had been a slight bending of the front axle, the dislocation of some of the leaves of the front spring, and the loosening of the steering rod. Within thirty minutes the truck was on its way again under its own power.



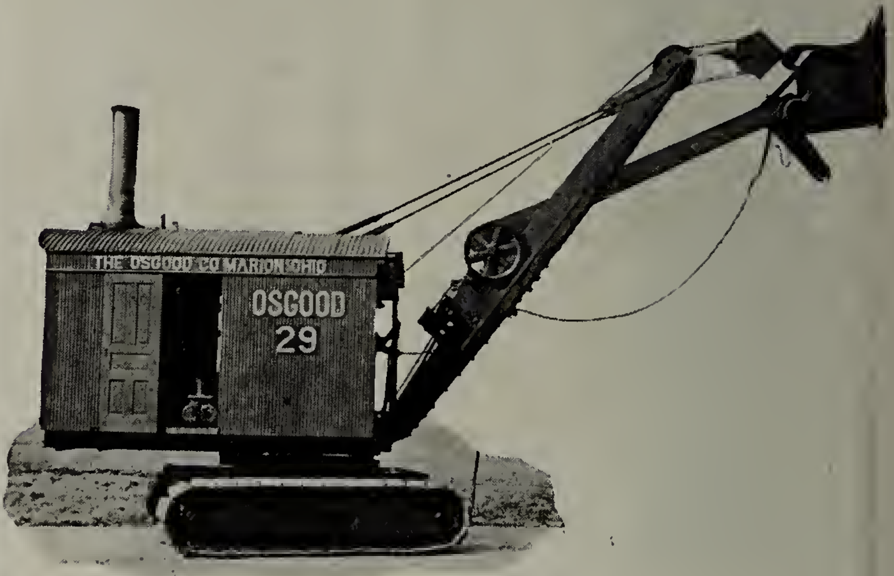
The Wrecking Crew Gave Up the Job of Saving It, So the Packard Rescued Itself.

⁂

Continuous Tread Mounting

An important announcement, one which is of particular interest to clay products manufacturers is made by The Osgood Company, Marion, Ohio, concerning its successful development of a continuous tread mounting for their Osgood 29-1 yd. Revolving Steam Shovel.

The caterpillar mounting enables it to travel over very soft or uneven ground with ease, and the tread belts extending but a short distance beyond the truck frame, interferes as little as possible with operations of the dipper. The treads are of three piece construction, an open hearth annealed steel casting to which are bolted a heavy steel pan, reinforced by heavy maple blocks, which forms a firm and smooth tread for hard use. The tread belts are so constructed to enable either side to be easily and quickly adjusted independently of the other side.



The Caterpillar Mounting Enables It to Work to Advantage Even When the Ground Is Soft and Uneven.

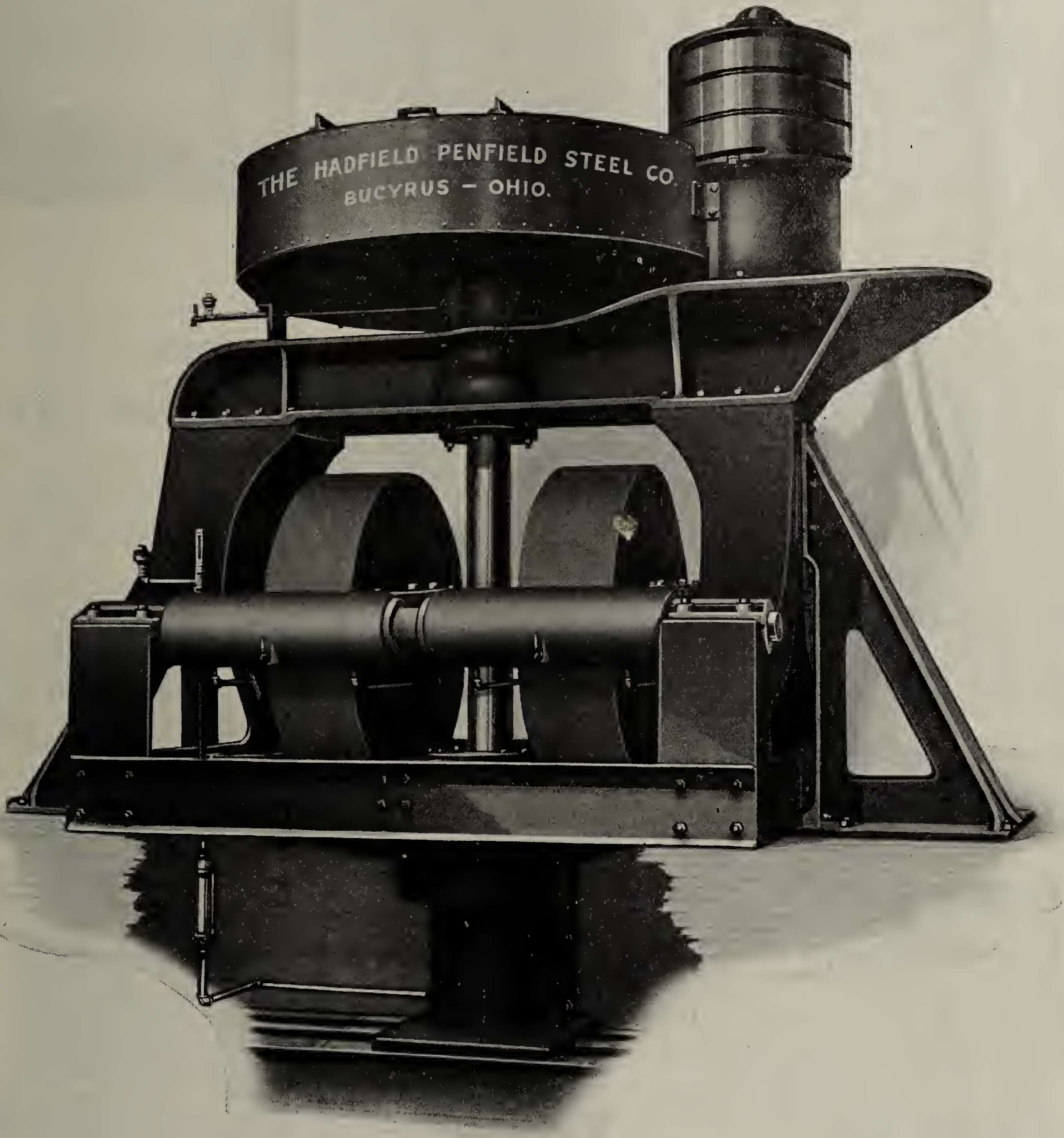
All the castings on the continuous tread mounting are of open hearth annealed cast steel, accurately machined and carefully assembled.

It is propelled by direct gear drive and the weight of the shovel resting entirely on two heavy steel billets allow the driving shaft to be free from weight.

The driving shaft extends the entire width of the shovel and supported by three large bearings of heavy pattern. The truck frame is a one piece open hearth, annealed steel casting of heavy pattern and built to interchange with the traction mounting.

Quality, rigidness and compactness, features of Osgood products, are retained in this development. It is so constructed as to enable it to be equipped with steel boom, extra drums, etc., for converting into a crane, clamshell or dragline outfit.

American No. 384 High Speed Grinding Pan



American No. 384 High Speed Grinding Pan.

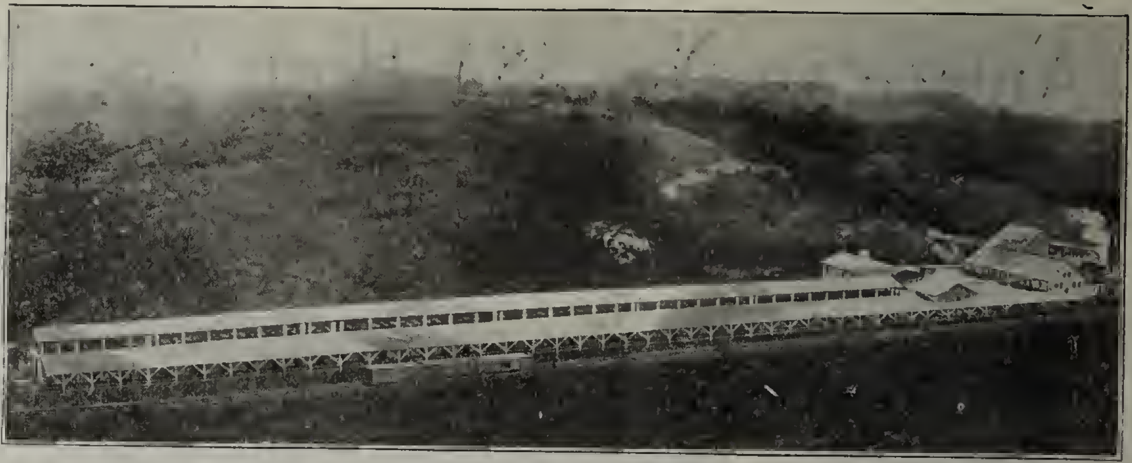
This isn't the ordinary pan; it's different. It has no screen plates and it has a capacity of two or three ordinary dry pans. It is a quick and willing worker and has the strength to keep at it. Let us tell you about this pan. If you want to see it on the job we will be pleased to show it to you. We build every machine and appliance needed by Clay Workers.

The Hadfield-Penfield Steel Co. - Bucyrus, Ohio

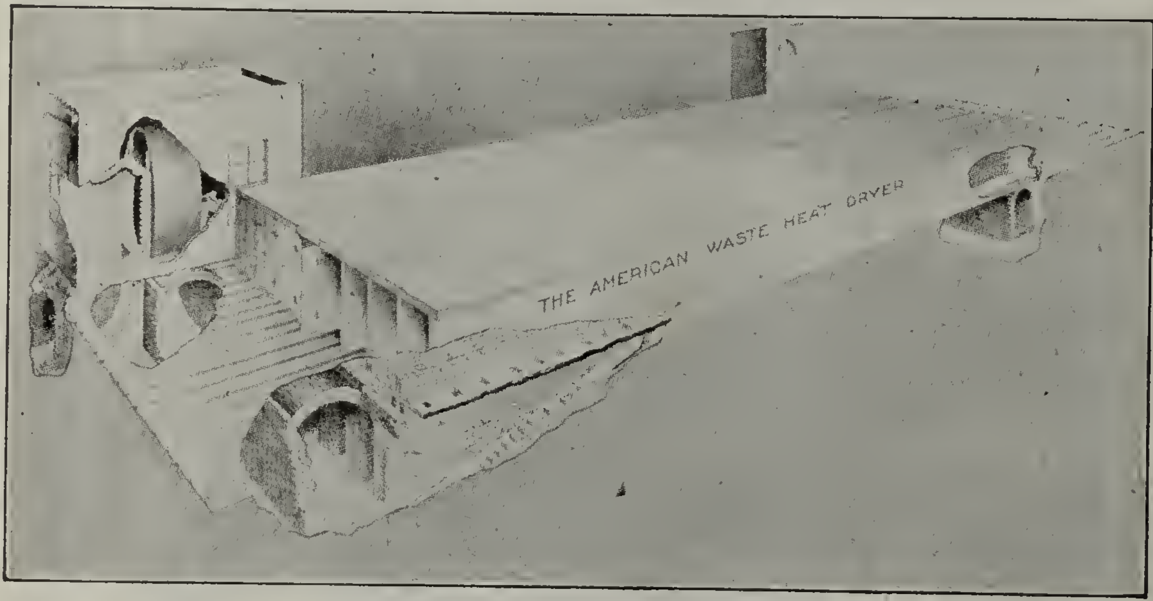
Formerly The American Clay Machinery Co.

The Haigh Kiln

The Haigh Kiln is saving the brick makers fuel everywhere it is used. We want to send you statements to this effect from users. Ask for them. We will figure the cost to you of saving half your burning cost. Write our Kiln Department.



Haigh Continuous Kiln



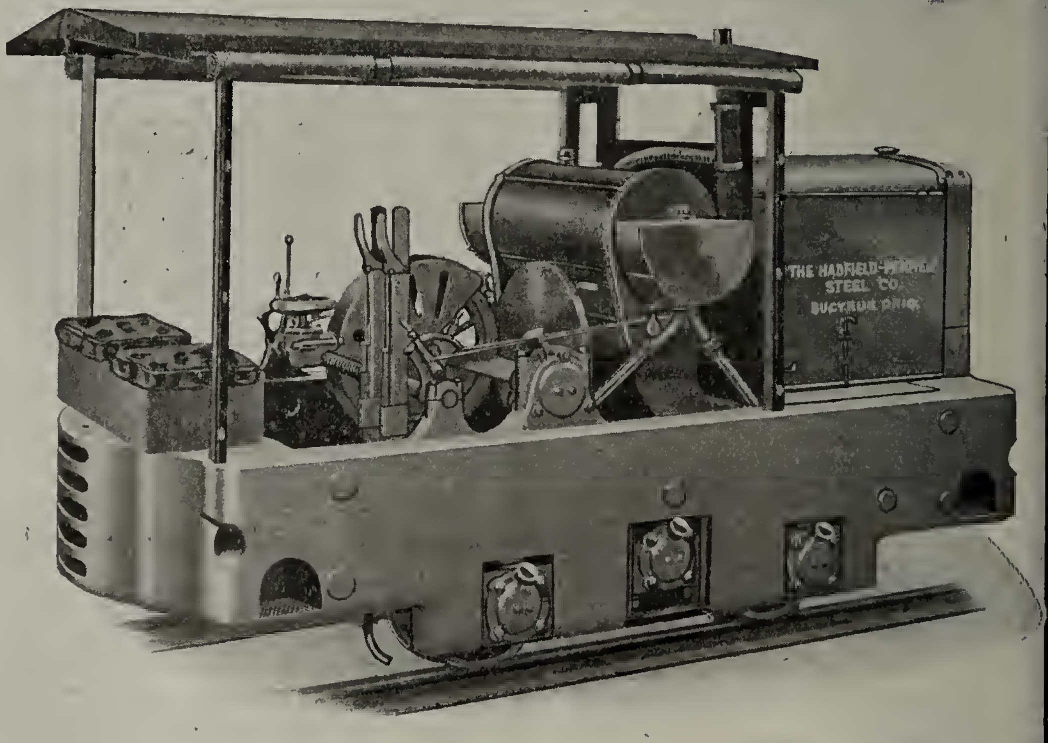
American Waste Heat Dryer

American Waste Heat Dryer

In connection with your kilns this dryer will utilize all the waste heat from the cooling kilns. The drying of your products is done without drying fuel. Get our Bulletin on this Dryer.

American Gas-O-Motive

The Clay Workers best bet in clay haulage is the American Gas-O-Motive. It's hauling big loads cheap for other clay workers and will for you. The Okmulgee Brick Co. says, "It's perfectly satisfactory, hauling 5 cubic yards of clay up a 7 per cent grade and would do more". Get our Gas-O-Motive catalog.



American Gas-O-Motive

The Hadfield-Penfield Steel Co. - Bucyrus, Ohio

Formerly The American Clay Machinery Co.

Gasoline Locomotive Sales Dept. - 404 Hippodrome Bldg., Cleveland, Ohio

BRICK and CLAY RECORD
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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

ADVISE DEALER TO STOCK UP

IF YOU ARE finding the dealer slow or reluctant in stocking clay products at this time, you might impress upon him the advisability of having a complete stock in his yard by bringing before his attention the following points:

The production of coal thus far this year has been so small that for the remaining months it will have to be at a high rate in order to take care of the needs that will be felt regardless of business conditions. If business should prove good and pick up considerably in the fall and winter, which it certainly will, it is doubtful that an adequate coal supply will be available unless fuel is purchased on a large scale immediately.

Statistics show that if an average annual consumption of coal will be mined this year, a weekly average of 11,000,000 tons must be mined from now on. This is equal to the maximum rate of coal production manufactured in the fall of 1920. But this meant priority orders for coal and a car shortage was precipitated.

We are furthermore, facing the possibility of moving large farm crops in summer and fall which will tax the railroad equipment considerably. The farmers have increased their crop acreage this year in order to compensate for lower prices, and this, of course, means larger tonnage of food stuffs to be moved. Besides this, there is no doubt but that construction activity will be underway on a large scale very soon. Road construction is bound to go ahead in large proportion. The shortage of millions of homes and of school buildings and so on, has been mentioned too often to need repetition here.

With all these things promising to come simultaneously, there will be need for the movement of an enormous tonnage by the railroads. However, railroad equipment is now in a worse shape than ever to handle such business. There has been practically no repairing done by the carriers in the past year due to the lack of money. The situation thus analyzes itself into one of need for action. The possibility that freight movements will overtax the capacity of the railroads this summer and fall is not at all remote.

Should a car shortage result in late summer or fall it will undoubtedly mean higher prices for clay products and other commodities and difficulty in obtaining same. Present these facts to your dealer and show him the advisability of stocking up now with clay products when building materials are available at low cost and shipping facilities at the very best.

* * *

RECIPROCAL COOPERATION

NEED for statistical information concerning business and industries, and research investigations of products of various industries, has increased with the growth of business and the progress of the country.

The Department of Commerce branch of our government, has for years served as a bureau for obtaining such information thru a number of unrelated government bureaus. Each of these bureaus has been doing work in a restricted sense, but on the whole, their activities have not been in keeping with the progress and need of industry.

Indications point to the reorganization of the Department of Commerce to function in a manner that will make it of greater value to industry. This is very desirable. The new Secretary of Commerce, Herbert Hoover, has determined that the department shall be of real aid to industry and his training and ability promises greater service from this department.

It is proposed to regroup some of the bureaus so as to prevent overlapping, and the activities of those relating to industry will be co-ordinated. Close contact will be maintained between the department and groups of manufacturers and business men with a view of studying the economic problems in industries and to make possible prompt and accurate reports of economic tendencies that may serve as a barometer of business conditions.

To accomplish this, the department will need the cooperation of industries and suggestions are in order. Should clay products manufacturers desire any specific information concerning their industries that they believe it would be advisable for the Department of Commerce to gather, suggestions should be made which will be given due consideration by Mr. Hoover. *Brick and Clay Record* would welcome any comments or suggestions from manufacturers on this topic.

To start a program of constructive work in the department, a small appropriation by Congress and the hearty and unselfish cooperation of industrial groups will be required. Mr. Hoover has requested a sum of $600,000 for the various bureaus in the Department of Commerce and the estimates have been outlined in the House of Representatives, Document No. 42. Of this appropriation a sum of $125,000 is to be set aside for structural materials investigations, in which clay manufacturers are directly interested. There is some danger that Congress in its spirit of economy may attempt to cut this amount, but if it is made to understand that the business men of America are solidly behind the ranks, there is little doubt but that the appropriation will be granted.

The amount asked is small and fades into insignificance when it is realized that the taxation for the Federal Government this year averaged $50 per person. Of this, only fifty cents per person was spent for research, education and development 92.8 per cent. of the total appropriations made by the government are for present armament and the effects of past wars.

Clay product manufacturers are urged to support Mr. Hoover in his undertakings and in addition offer active cooperation by suggesting statistics that might be gathered, and by furnishing all data asked by the department.

* * *

SOME HARD PLUGGING IS IN ORDER

AFTER every unnatural inflation of prices such as we had immediately following the Civil War and the World War, it is inevitable that deflation and readjustent must follow. It is also only natural that after our debauch of spending, excessive buying and squandering a reversion to the other extreme should set in. Readjustment is the storm which clears the atmosphere for the bright sun of prosperity to show his smiling countenance to the anxiously waiting multitude.

Are you pessimistic regarding business in the near future? If so, why? You have every reason to believe that the profit side of your 1921 statement will be healthy and full grown. The protracted inactivity in construction has stored up a potential demand which can not be held back much longer. A recent editorial in a trade paper covering the building supply field states that America is at least $30,000,000,000 underbuilt. It is common knowledge that, as nearly accurate as such figures can be, the United States is in need of from 1,000,000 to 3,000,000 homes of which hundreds of thousands will be built now.

You paving brick manufacturers that think business is dead, do you know that the Federal government has appropriated $200,000,000 for the construction of an interstate highway system? The Federal, state and county governments are intending to pave approximately 30,000 miles of highways. Furthermore, paving brick is seriously being considered by Federal authorities as the ideal surfacing material for pavements with a rolled base.

For any brick or hollow tile manufacturer who is looking into the future with lines of care and worry on his brow it may be interesting to know that according to F. W. Dodge reports, twenty-five states, comprising the Middle West and the East during the month of April showed a gain in construction over the previous month of 341 per cent. Does this mean nothing? In view of the great shortage of housing facilities a great many cities are considering a revision in building codes to permit eight inch brick walls where twelve inch are now required. This will give brick a much fairer chance in the home building field than it has enjoyed in the past.

Labor in practically all cities is either voluntarily reducing wages or being forced to accept a scale consistent with the reduction in the price of other commodities. One of the most encouraging bits of news received for some time is the announcement of the probable reduction in the wage scale of railroad employes of from twelve to fifteen per cent. This will unquestionably mean a reduction in freight rates as great and probably even greater than the reduction in the wage scale. Needless to say all these things add materially to the rapidly forming avalanche of construction activity.

Money, that all-important factor in the speedy resumption of building, is showing signs of appreciable loosening. Something over a year ago Governor W. P. G. Harding of the Federal Reserve Board sounded a note of warning in a statement to American business men telling them they were living in a "Fool's Paradise," that the prosperity was not natural and he expressed much anxiety for the future. From that time on liquidation was enforced by the Federal Reserve banks, rediscount rates rose and money was greatly restricted.

Now, however the situation is reversed, loans are considerably safer and business and credits are on a more healthy and stable basis. The reserves of the Federal Reserve banks are steadily rising and Mr. Harding now says, "The reserve banks are now able to safely take part in a movement to stimulate business, with a view of liquidating frozen credits, a part they have not been in position to take heretofore. Now is the time for courage. Now is the time to do things."

Surely these things should induce us to put aside the sack cloth and ashes, don our fighting clothes and go out and get the business. It is there, but it certainly will not come to you; you have got to go out and fight for it and take it forcibly.

* * *

PRICE CUTTING

"SINCE some of my piker competitors have been selling their products at a price at which they are giving them away, I have decided to go them one better. Prices on my complete line of products have now been slashed to way below cost."

Thus read the signs on the motor trucks of one Chicago concern. A poor attitude to assume, you might say, but nevertheless in times of close competition, when one concern begins to cut to a point where there is no profit, it is not unnatural for the morale of the industry to dwindle to the point where the word *ethics* has lost significance and a general price slashing results. No profits are made at such times. In fact, losses usually prevail and confidence in the industry and of the public is lost.

The man who started to cut way below the market price finds his tactics of no avail and his offense comes back to him like a boomerang, since his competitors go him one better and the result is every one loses money or at least makes nothing. But, more important than this, a demand for clay products is filled that would eventually have come some time and would otherwise have netted a real legitimate profit whereas by cut-throat methods it has merely promised at no profit, some ready cash which may not even be realized.

Again, the effect of such practice on the public is one that destroys confidence. Such practice is deterrent to business and should never be used by anyone claiming to have business scruples.

* * *

COAL PURCHASES

IN LAST ISSUE of *Brick and Clay Record* there were published the views of several coal operators on the subject of purchasing coal for clay plant use. In general, it was recommended that those concerns that could, would do well to lay in a supply of from sixty to ninety days of fuel and make contracts for their full requirements now.

The clay plant operator, however, is somewhat reluctant in going ahead on this basis. Altho his business is better than most industries at this time, he is inclined to assume the caution taken by other business men who see no business in view whatever. Furthermore, it is difficult now on account of business conditions to calculate just what this year's requirements will be.

The drawback in stocking coal, the owner finds, is that the railroad company demands payment of freight charges, within forty-eight hours, and the coal operator too wants his money at the end of the month. Most concerns would rather manufacture brick or tile which they believe is a greater asset in stock than bituminous coal. However, it takes fuel to make brick or tile.

A Pennsylvania brick plant has contracted for the larger part of its fuel requirements. This enables it when prices are attractive to purchase on the open market such additional coal as is required to keep its storage capacity filled to the limit. While the contract coal costs more than the price obtained now in the open market, this concern gets the kind of coal that it desires. If the price of coal should advance as is likely, and they are obliged to pay more in the open market and sometimes buy inferior coal, they still have the contract coal of good grade to mix with the poorer coal and obtain good results at a comparatively low price. This concern feels that under present conditions this is the best method to pursue in purchasing coal, for the clay products manufacturer and the plan merits consideration.

WHY TEAR UP OLD ROADS? RESURFACE *with* BRICK!

It is a Mistake to Tear Up Roads in Need of Repair When Simply Resurfacing Them with Brick Will Save Cost and Give Best Road Possible

By Harvey C. Adams

President, Danville (Ill.) Brick Co.

"WHY, at the present time, are not more brick roads being constructed?" A representative of *Brick and Clay Record,* asked Harvey C. Adams, president of the Danville (Ill.) Brick Co.

"There is so much demand for roads right now that the men who are building them are sacrificing durability and permanence to cheapness," replied Mr. Adams. "I think, in the long run, we brickmakers will resurface all those concrete bases they are putting down. In this county there are concrete roads that have been down only a few years, but which already have in them two ruts that become two lines of narrow puddles when it rains. This clearly indicates to me that the usable surfaces of those roads will not last the life of the bonds that paid for their building.

"The brick road is the only road that will last the life of the bonds. Durable as this kind of road has been in the past, it will be even more durable in the future, because of the improvement in the quality of paving brick. We also know more about what kind of a foundation a brick surface should have. There is the concrete foundation, but that is not the only good one; there is also the crushed stone foundation with the voids filled with sand and with a cushion of sand overlying it under the brick.

BRICK ROADS HAVE LONGEST HISTORY

"Concrete and some of the other types of roads are too new to have much history in the light of which we can determine their value. But brick roads have the longest history of all modern roads. The sand-filled brick paving has a record of over 100 years. In Holland, about sixty-five per cent. of all roads are brick roads and many of those roads have been in use for more than 100 years and are still good.

"We have one brick street here in Danville that is over thirty years old. It was laid on a crushed stone foundation and has a cushion of sand between the crushed stone and the brick. It is in good condition, tho it has been subjected to heavy traffic during all these years.

"It is a mistake to tear up good foundations of old roads in the building of new roads. Many of these foundations are well graded and well built. There are thousands of miles of good gravel road and crushed stone road that have now become unsatisfactory and where the people are considering rebuilding. On investigation, it will be found that the surfaces have been merely worn into ruts and holes but that the foundations are in good condition. The logical thing to do is to fill up the ruts and holes with crushed stone and then resurface with brick.

UNIFORM FOUNDATION NOT NECESSARY

"The State Highway Commissions of the various states could save the people a lot of money if they would see that these usable foundations were not torn up but were used for a foundation for brick.

"It is true that these foundations are of great variety, because they have been built in the past by different townships having different views of how a road should be built. Some of them, it is true, are so poorly built that they would have to be rebuilt from the foundations up. But many of them are serviceable for foundations.

"There is a strong tendency in some quarters to design a universal road that shall be good in all places and under all conditions of traffic. But no such road is needed nor is it feasible. It means the tearing up of all the foundations that have been laid at great expense. It not only means the cost of constructing such a road from the foundation up, but it also means the added cost of tearing up the old foundations. I believe the resurfacing with brick is sure to come."

⁂

Recommend Change in Building Codes

At the fifty-fourth annual convention of the American Institute of Architects, at Washington, D. C., the Committee on Fire Prevention in making its report stated that the field of standardization of building codes offers the greatest opportunity for service and the stimulation of intelligent interest and effort toward this end is desirable. The committee said in part:

"We believe that now is the proper time to revise building codes generally, and remove from them all unnecessary restrictive requirements. For example, the building codes of most large cities at present do not permit of the use of the newly developed hollow brick wall, the scientific use of hollow tile, the proper use of concrete building block and other types of construction which have been recently developed and which if permitted, will result in quite materially reducing the cost of construction of the so urgently needed housing."

⁂

A System Whereby Anyone Can Own a Home

Everywhere thruout the country, banks, real estate houses, insurance companies and numerous others are turning their attention to the problem of housing shortage. Plans to build homes for the house hungry are springing up daily. The Metropolitan Life Insurance Co., has set aside a large sum for the purpose of relieving the housing shortage. The company will loan to practically anyone on a fair, easy payment plan. The main features of this plan are these:

1. The loan is one-half of combined value of land and cost of house.

2. Security is a first mortgage on the property.
3. The easy payment plan requires but three per cent. of the principal, plus the interest, to be paid each six months.
4. Interest is at current local rate.
5. Term of loan is fifteen years, but may be prepaid, after three years, if borrower desires.

As an illustration, the cost to the borrower of $1,000 would be but $7.90 per month when spread over a period of fifteen years. $7.90 includes payment of principal and interest and would clear up eighty-seven per cent. of the entire loan at the end of fifteen years.

To secure the cooperation of the business and financial organizations in the locality where the plan is being pushed the Metropolitan Life Insurance Co. writes a letter to the eligible bank or bankers in which is outlined a plan of advertising and publicity which is strongly recommended. The company agrees to take upon themselves one-half the initial expense incurred by promoters in acquainting the people with the Metropolitan plan.

H. S. Cody, manager, real estate loan department, Chicago Trust Co., who are the western representatives of the Metropolitan Life Insurance Co., stated that over $40,000,000 have already been advanced on between four and five thousand new homes and apartment buildings and unlimited additional funds are available for home loans.

* * *

Famous Ceramic Centers to be Visited

Members of the American Ceramic Society are already making plans for their vacations. Part of the plans include three days set aside for the summer meeting of the American Ceramic Society, which will be held on Monday, Tuesday and Wednesday, July 25, 26 and 27.

The meeting will include a visit to Canton, Alliance, Sebring and East Liverpool, which cities are complete with a diversity of ceramic establishments. It is doubtful if there is a section with a greater number of ceramic plants in any other part of the country.

The members will gather at the Hotel Courtland, Canton, which will be the headquarters for the meeting.

Besides the inspection tours to the various ceramic plants in this vicinity, arrangements are being made for a banquet and other social functions. Special plans for the entertainment of the ladies who accompany members to the meeting are being made by the committee, of which Ira H. Sproat of the Sebring Pottery Co. is chairman.

* * *

Gate Company Boosts Hollow Tile

Hollow tile will get a considerable boost from the literature that will be distributed by the Iowa Gate Co. of Cedar Falls, Iowa. Harley M. Ward, an agricultural engineer, employed by the Haeger Brick & Tile Co., of Aurora, Ill., is now preparing a set of drawings which will be used to illustrate a hog house book being prepared by the Iowa Gate Co.

The hog house will be a fifty-page booklet, giving information on the products of the Iowa Gate Co., and will embody eight designs of hog houses, all of which will be of the hollow tile type. These eight designs cover every type of hog house built. When completed, this booklet or plan service, will contain information of considerable value to the farmer, and incidentally will promote hollow tile.

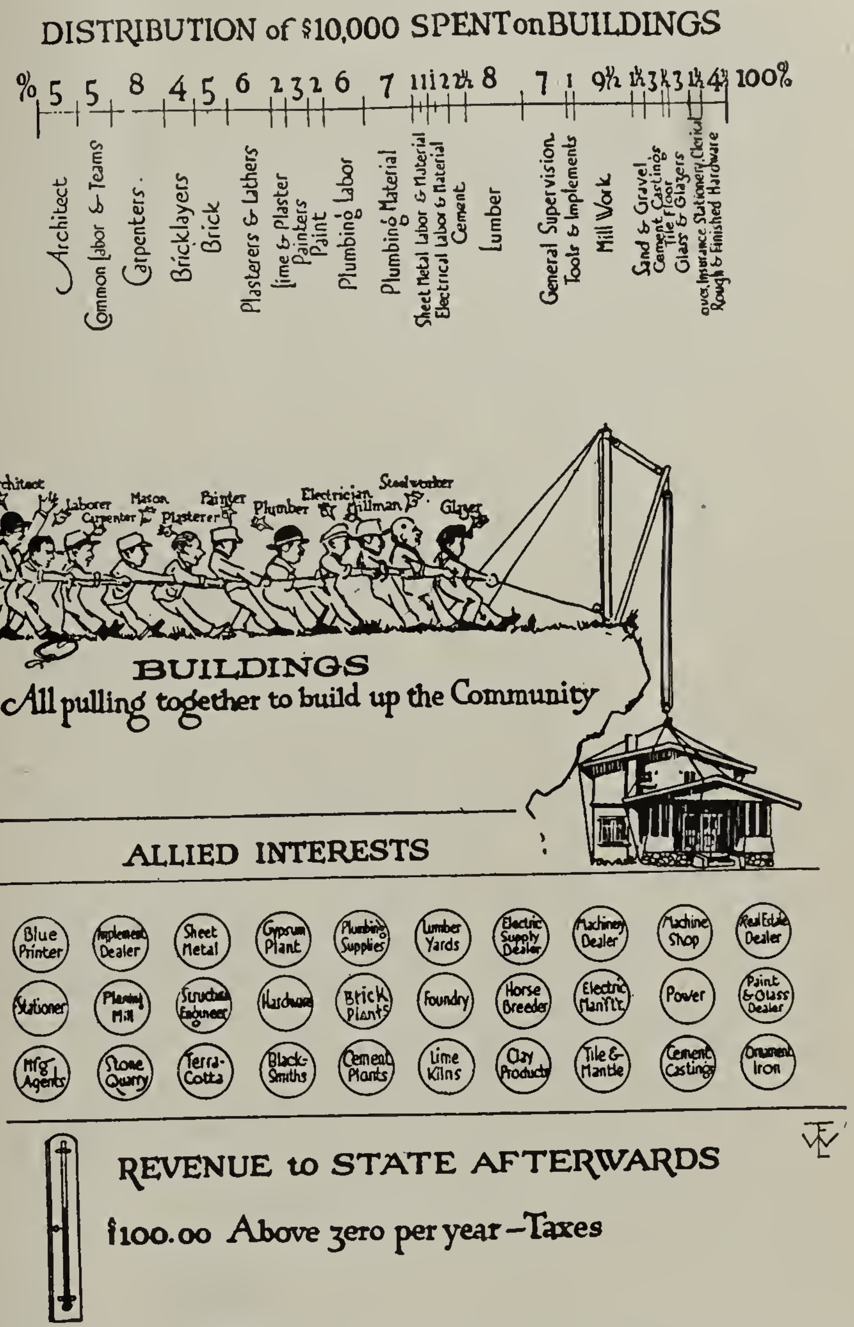
* * *

Every Home a Permanent Producer of Value

Revival of building activity means a revival in practically every line of endeavor in the country. So many industries are dependent either in whole or in part on the construction industry that one may say that building practically holds the key to prosperity or depression. When you build your residence you provide innumerable trades with business.

Twelve thousand dollars spent on the building of one or more residences will help:

Finances; real estate; architect; draftsman; bonding, teams; trucks; foreman; common labor; bricklayers; bricklayers' helpers; plasterers; carpenters, painters; glaziers; plumbers; sheet metal workers; electrical workers; general supervision.



The Above Illustration Forcibly Brings Home the Fact That a Resumption of Building Will Mean Prosperity. The Erection of a Building Affects Many Industries Directly and Every Industry Indirectly.

The materials used are:

Cement, 5½ per cent.; 5 per cent. lime and plaster, 4½ per cent.; sand; lumber, 17 per cent.; finished hardware, 2 per cent.; paint, 2 per cent.; plumbing, 8 per cent.; sheet metal, 1 per cent.; wiring, electrical materials, 2 per cent.; tools.

When the home is finished it is no longer a liability to the public, but is a resource and will net to the state in taxes from $200 to $250 per year. It then becomes a consumer of everything produced in the world's markets.

* * *

No Federal Building Regulation Says Hoover

In an address before the annual meeting of the American Institute of Architects at Washington, D. C., May 12, Secretary of Commerce Herbert C. Hoover outlined his plans and ideas in regard to the construction industry. One of the most important statements made by the secretary was his announcement that he did not consider government regulation desirable. The services the government can perform to remedy the situation, he said, must be entirely indirect. "The government cannot enter into the fixing of prices or the determination of wages." Price readjustment and wage scale questions must be local issues. Federal aid can, however, be extended somewhat by efforts to effect elimination of economic and physical waste in the industry.

Mr. Hoover has made an important step in the right direction by appointing a committee composed of the best known men in the various branches of the industry; this committee is to secure information which may eventually be used as the basis for modern building codes and material standards.

Secretary Hoover said that amendments to the banking laws would prevent certain diversions of investment capital from building loan and mortgage purposes. Greater freedom should be given the national banks to apply their savings accounts to mortgage purposes.

The most important aid which the Department of Commerce could render, Mr. Hoover believes, is in the reduction of waste and increasing the stability in operations. Intermittent operation is the real cause of the high costs of labor and materials. Considerable study must be devoted to the problem of making operations more steady instead of periodic. Mr. Hoover pointed out that the capacity of the lumber and cement mills is considerably over the actual output; the capacity of the brick industry he states, is about eight billion brick annually whereas the actual production ranges from 3½ to seven billion.

Standardization of building codes so far as is possible and feasible is also a vital necessity. The differences in the 260, more or less, building codes regarding various structural features prevent the standardization and simplification of certain building materials which could otherwise be effected without changing the attractiveness of design, the arrangement or usefulness of the building.

Mr. Hoover recommended Federal aid in the collection and distribution of data regarding current prices, stocks, production, volume of activity and so forth. Acquainting the entire public with these facts would eliminate to a large extent the possibility of harmful price combines.

In concluding his remarks Secretary Hoover said, "This is not a program of Government domination and interferance in business. It is a program of service that can be rendered by co-operation with the industry."

N. P. B. M. A. Issues Magazine in New Form

The initial number in its new form of "Dependable Highways," the organ of the National Paving Brick Manufacturers' Association, has made its appearance. In it are recounted the achievements of brick pavements in various parts of the country and it will carry to the manufacturers the developments of the industry. The first number and all following issues undoubtedly will contain valuable data which can be used as sales arguments.

In any good sized organization there is no better method of keeping in touch with the members and keeping the members in touch with the association's doing than such a monthly message. The National Paving Brick Association urges discussion and criticism by its members of its mouthpiece, "Dependable Highways."

⁂

A Strong Argument for Brick Schoolhouses

Some time ago the Herald-Examiner of Chicago, Ill., printed an item regarding the proper distribution of school taxes upon every individual in the state. School teachers' clubs are uniting in an endeavor to bring about a fairer method of taxation which would also mean more adequate returns. In this campaign of the teachers a picture is being used to tell the story more forcibly. It is the picture of a frame shack serving as schoolhouse in Macoupin County, Ill. This picture presents an unanswerable argument in favor of brick for schoolhouse construction. Any comparison whatever by a school official between a neat and trim looking brick building and the dilapidated and disreputable structure shown cannot help but clinch the sale for brick.

⁂

Scotland Shipping Brick to Canada

The steamer "Canadian" recently docked at the pier of the Dominion Iron and Steel Co., Sydney, N. S. with a load of brick brought from Scotland. The brick will be used by the company for construction and repair work at the steel plant.

* * *

FREIGHT HEARING POSTPONED—HEAVY MOTOR TRUCK MAY *be* RULED OFF OHIO PAVEMENTS

EVERY DAY brings new developments in the question of lower freight rates for building materials.

The hearing scheduled at Washington for May 20, at which representatives of the paving, face and common brick manufacturers, and tile, sand, gravel and building supply producers were to plead the cause of lower rates before the Railway Executive Association, has been postponed to the early part of June.

The manufacturers and producers have their briefs ready to submit, according to Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America. The manufacturers propose to make a case that the prohibitive cost of building materials on the job is due primarily to high freight costs, and that a lowering of rates on building material would remove the principal deterrent to increased building activity.

MEASURE TO PREVENT HEAVY TRUCKING

It will also be brought out that on short hauls the automobile truck is being used as an important competitor to the railroad.

But hold! No sooner is this veiled threat safely planted in the manufacturers' brief than they awake to find that the heavy motor truck, to all intents and purposes has been legislated entirely off the streets and roads of Ohio.

Senate Bill No. 34, by Burke of Lorain County, had slipped thru the Legislature, as bills have a habit of doing, and is in imminent danger of being signed by the Governor. Fortunately, the Governor is out on Lake Erie fishing for a few days, which affords time for the development of opposition.

The Burke Bill to prohibit heavy loads on paved highways did not meet with great opposition in the Legislature because it sounded feasible to the farmers, who do not have heavy trucks and who pay considerable for the upkeep of the roads.

AUTO CLUB IN FAVOR OF THE BILL

The various automobile clubs, under the lead of the Cleveland Automobile Club, were and are strong for the bill because it is their belief that under the present Ohio license law the pleasure cars pay for the upkeep of the road, while the trucks tear them to pieces.

When the issue was clearly drawn the truck interests came to bat without delay. A half-page advertisement was run in

Cleveland newspapers by the Cleveland Automotive Trade Association and the Cleveland Transportation Association, calling attention to the bill and asking truck owners to wire Governor Davis to veto it. Every effort will be made by the above mentioned association to defeat the bill's passage.

Just how the controversy is going to be composed is not clear at this writing, but one thing is certain—that the Governor is in for a busy day.

Both the railroads and the building supply producers appear to be keeping aloof of the truck controversy until the air clears somewhat. However, there is no doubt that the outcome of the freight rate controversy depends to some considerable degree on the fate of the heavy truck.

TRUCK DRIVERS UNITE TO FIGHT FOR TRUCKS

The paving brick manufacturers, especially, who are likely at any moment to find themselves on both sides of the controversy, are maintaining a policy of watchful waiting.

The truck drivers' union has brought organized labor in against the bill. It is estimated that 400 truckers would be thrown out of employment, many of them in the building supply industry, and property valued at many thousands of dollars practically confiscated. The State of Ohio would be prohibited from using its own heavy duty trucks on road work.

The problem is not primarily one of wear and tear on paving, but finds its roots in present system of graduated licenses for various types of vehicles, and the general problem of taxation for road purposes, beside touching on the railroad freight rate problem.

COMPARISON OF PAST AND CURRENT FREIGHT RATES ON BUILDING MATERIALS AND COAL FROM PRODUCING TO CONSUMING CENTERS

Material	From	To	Miles	Rates in Effect			Current Prices of Materials	Current Rates in Per Cent of Material Prices	Material Prices As of Jan 26, 1917	Jan 1, 1917, Rates in Per Cent of 1917 Material Prices
				Jan. 1, 1917	Aug. 20, 1920	Jan. 1, 1921				
Cement, per bbl.	Ragland, Ala.	Atlanta	119	$0 29	$0.37	$0.48	$2 75	17	....	..
	Union Bridge, Md.	Baltimore	108	17	.29	.41	....	..	....	..
	Hudson, N. Y.	Boston	193	..	.48	.58	2 86	20	....	..
	Sandusky, O.	Chicago	281	29	.41	.56	2 17	23	$1.96[3]	15
	Hudson, N. Y.	N. Y. C.	113	20	32	.47	2 90	16	2.07[3]	10
Brick, per 1,000	Chattahoochee, Ga.	Atlanta	8	45	1.65	1.65	12.00	14	....	..
	Waterloo, Va.	Baltimore	46	1 92	3.30	4.67	22.50	21	....	.
	E. Bridgewater, Mass.	Boston	25	1.92	3.30	4.67	21 75	22	....	..
	Danville, Ill.	Chicago	129	2 58	3.30	4 67	12.00	39	6.00	43
	West Haverstraw, N. J.	New York	33	2.31	3.85	5.50	18.40	30	9.50	24
Gravel, per ton	Conley, Ga.	Atlanta	10	20	.50	.62	2 62	24	....	..
	Patapsco, Md	Baltimore	17	53	.80	1.10	1 40	78	....	..
	Canton, Mass.	Boston	14	35	.60	.80	2 65	30	....	..
	Rupel Pit, Ind.	Chicago	91	39	.55	77	1 83	42	.93	42
	Peekskill, N. Y.	New York	40	1.26	1 80	2.50	1.67	150	.74	170
Lime, per ton.	Calera, Ala.	Atlanta	175	1.20	1 50	1.87	15.00	12	....	..
	York, Pa.	Baltimore	65	95	1 40	1.96	17 50	11	....	..
	Pownal, Vt.	Boston	151	2.20	3 00	4 20	22.75	18	....	..
	Genoa, Ohio	Chicago	246	2.10	2 70	3 80	20.00[1]	19	....	..
	Ossining, N. Y.	New York	30	1 16	1 60	2.20	20 00	11	....	..
Sand, per ton	Dames Ferry, Ga.	Atlanta	72	30	.50	.62	1 52	41	....	..
	Patapsco, Md.	Baltimore	17	.53	.80	1.10	.70	157	....	..
	Sharon Heights, Mass.	Boston	18	.30	.90	1.30	2 00	65	....	..
	Rupel Pit, Ind.	Chicago	91	.39	.55	77	2.04	38	.67	58
	Peekskill, N. Y.	New York	40	1.26	1.80	2.50	.93	269	.33	380
Coal, per ton	Excelsior Colliery, Pa.	Atlanta	768	4.12	5.62	7.04	....	..	....	..
	Schuylkill Region	Baltimore	163	1 43	1 87	2 62	...	..	....	..
	Mayfield, Pa.	Boston	347	2 37	2 85	4.00	...	..	....	..
	Buffalo, N. Y.	Chicago	522	1 56	1.92	2.68	...	..	....	..
	Lehigh Region	New York	291	1.61	2 05	2 87	....	..	....	..
Lumber[2], per M. ft. b.m.	Tallapoosa, Ga.	Atlanta	63	1.44	1 80	2 25	27 50	8	....	..
	Waycross, Ga.	Baltimore	771	8 40	10 50	14.00	60 00	23	....	..
	Allenhurst, Ga.	Boston	1,123	10 85	11.90	15 92	45 00	35	....	..
	Atlanta, Ga.	Chicago	784	7 70	10.32	13 82	51 00	27	.27	28
	Savannah, Ga.	New York	880	8 75	10 85	14 52	37 00	39	29	30

1—Finished Lime in Chicago; 2—All lumber white pine; 3—Including bags, not delivered.

Freight Rates of Principal Building Materials and Coal from Producing Centers to Points of Consumption.

FREIGHT RATES COMPARED TO MATERIALS COST

Included in the accompanying table are the freight rates on the principal building materials and also on coal from producing regions to centers of consumption. An analysis of these rates in connection with current quotations of the materials shows not only the lack of uniformity in per-mile charges for like materials shipped over different railroads, but also the presence of prohibitive charges in some localities. Evidently, in such instances, the rate operates in favor of other producing centers, or the transportation and handling difficulties are large. The table shows that the rates of 1917 and 1920, expressed in per cent. of material prices, are not far part, says "Engineering News-Record."

It may be seen too, that, for instance, the rate on sand from Patapsco, Md., to Baltimore, and on sand and gravel from Peekskill to New York are in excess of the current market quotations for those materials, indicating that Patapsco supplies no sand to Baltimore and Peekskill neither sand nor gravel to New York. The rate therefore operates to prohibit the shipment of those materials to Baltimore and New York.

The producing centers are those lying nearest points of consumption, giving the shortest rail haul. It is not, however, generally true, that the producing centers here given actually furnish the bulk of the materials indicated to the cities given, but merely show the trend of rates. No account is taken in the table of less-than-carload lots, as such movement of building material is small.

The current prices of materials are usually the prices delivered to the contractor. In the case of cement the quotations are prices per barrel in carload lots with the exception of Baltimore, where the price is that per barrel in drayload lots. The per barrel price in carload lots would be around $1 per barrel less. The quotations on sand and gravel are per ton in carload lots, the usual per-cubic-yard quotation in New York and Chicago being adjusted to a per-ton basis for the purposes of comparison. Brick is quoted per thousand, in carload or cargo lots delivered, except in Chicago and Atlanta, where the quotation is for brick not delivered. White pine is quoted in M. ft. b.m., on pieces 8 x 8 in., 20 ft. and under.

RATIO OF RATES TO MATERIALS UNCHANGED

As indicative of what the table shows the freight rate per barrel on cement now ranges from 41 cents for a 108-mile haul to 58 cents for 193-mile haul, tho a haul of an even greater distance—281 miles—is only 56 cents. Local shipping conditions might explain such a discrepancy. The rate on cement, expressed in a ratio to the current prices of cement in the various cities, ranges from sixteen to twenty-three per cent.

Then, in comparing the ratios of freight rates for 1917 and 1921 with the costs of materials it is found that in 1917 freight represented forty-three per cent. of the cost of brick in Chicago, and twenty-four per cent. in New York, whereas now these figures are thirty-nine and thirty per cent., respectively. For lumber freight represented twenty-eight per cent. of the cost in 1917 in Chicago and thirty per cent. in New York, and twenty-seven per cent. in Chicago now and thirty-nine per cent. in New York.

As the table gives a fair idea of the rates on all materials it is left to the clay manufacturer to determine whether the rates on building materials are too high, as compared with the current costs of these materials.

* * *

New Refractories Plant at Toledo

The Farber Fire Brick Co. has been incorporated at Toledo, Ohio, with $10,000 capital stock. A. C. Ruthley and B. E. Emery are mentioned as the incorporators.

BRICK WALL THICKNESS *for* SMALL RESIDENCES

Architect Addresses Conference of Nation's Building Commissioners on Building Codes and Recommends Permitting Construction of the Eight Inch Ideal Wall

By William Carver

Architect, Common Brick Manufacturers Association, Cleveland, Ohio

THE BUILDING INDUSTRY comprises not only those directly engaged in the design and erection of buildings and the furnishing of materials, but in a broader sense it includes all those who exert an influence upon it and are necessary for its existence.

The building official occupies an important place in this industry. His work is of vastly more importance and upon his shoulders is placed a greater responsibility than upon almost any other public official. Until all mankind improves in morals, he will have the task of safeguarding the public against those who, either from ignorance or for profit, would construct buildings that would be unsafe structurally or unsafe from the point of fire resistance or buildings that would be unsanitary and unhealthful. Upon him rests the responsibility of safeguarding the lives and health of the vast majority of the citizens of the United States. He may well be proud of the vital importance of the office he holds. The small number of accidents due to unsafe buildings is the greatest compliment to the thoroness with which the building officials perform their difficult tasks.

MOST BUILDING CODES ARE GOOD

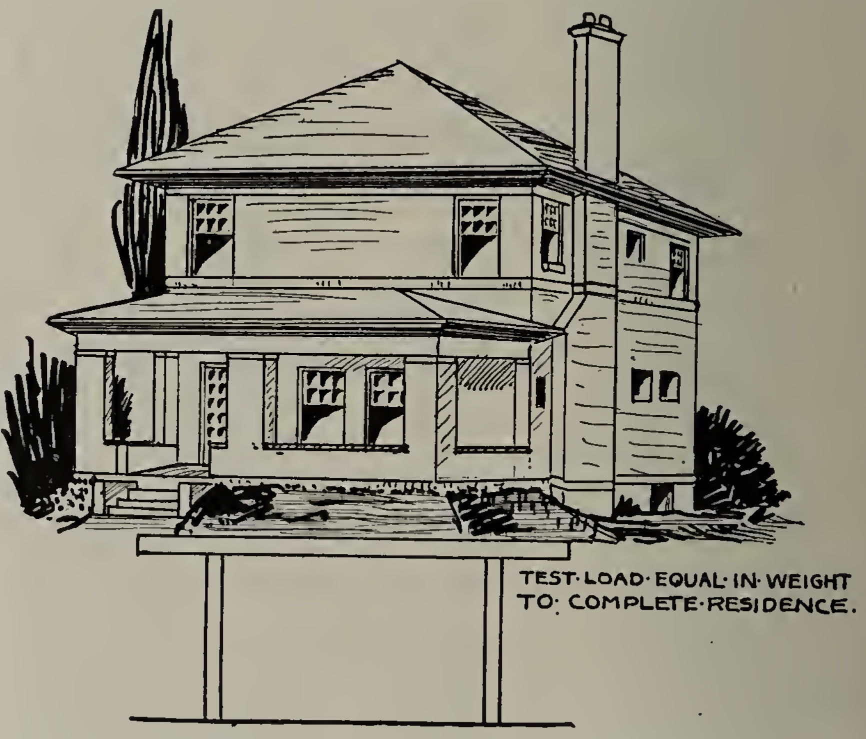
The vast majority of building codes are good codes and make for good, safe construction. There are many people, however, who are continually trying to break down their good provisions and get by with questionable methods or material. The average building commissioner is pestered to death by such people. Most often they rely upon their eloquence, but the building commissioner is astute enough to know that the earnestness of a salesman or of a dishonest contractor has no influence upon the strains and stresses in a building. It does not lessen the heat of a burning building or stop the wind and weather. Every material, every method of doing work, must stand on its own merits alone when in the building, uninfluenced by anybody's special reasons for placing it there. When a new material or a new method demands admission to the code, those promoting it should be able to show you why, by spreading before you the results of tests made by a reliable, distinterested authority, such as the Bureau of Standards or the Underwriters' Laboratory. There is no argument about the jaws of a testing machine or the interior of a test furnace. The average building official is from Missouri. "Show me," is his middle name. He is not a bit credulous and does not gamble with the safety of the public.

SOME CODES MORE STRICT THAN NECESSARY

That does not mean, of course, that building codes are infallible, for here and there we find some codes that are too lax, and should be made more stringent, and here and there are codes that err on the other side, their enforcement entailing considerable waste of good material and needless expense to the owner and it is with the latter kind of codes with which we are now concerned.

Brick is one of the oldest of the standard building materials. It is used all over the civilized world and some portions of the world that are not even civilized. It is the product of the experience of centuries. Hardly any other material has been so thoroly tested by universal usage and performance under every conceivable condition as brick. In presenting the case of the eight-inch wall, I simply urge recognition of facts that are widely known.

Brick construction is good, sound, honest construction. It is common knowledge that brick is probably the most permanent form of construction known. When built into the walls of a home it provides the owner with a structure that costs him little for upkeep and that depreciates slowly. Depreciation on a well-built brick house amounts to only five per cent. during the first ten years after it is built. It will provide shelter not only for the lifetime of the man who builds it, but for the lifetime of several generations after him.

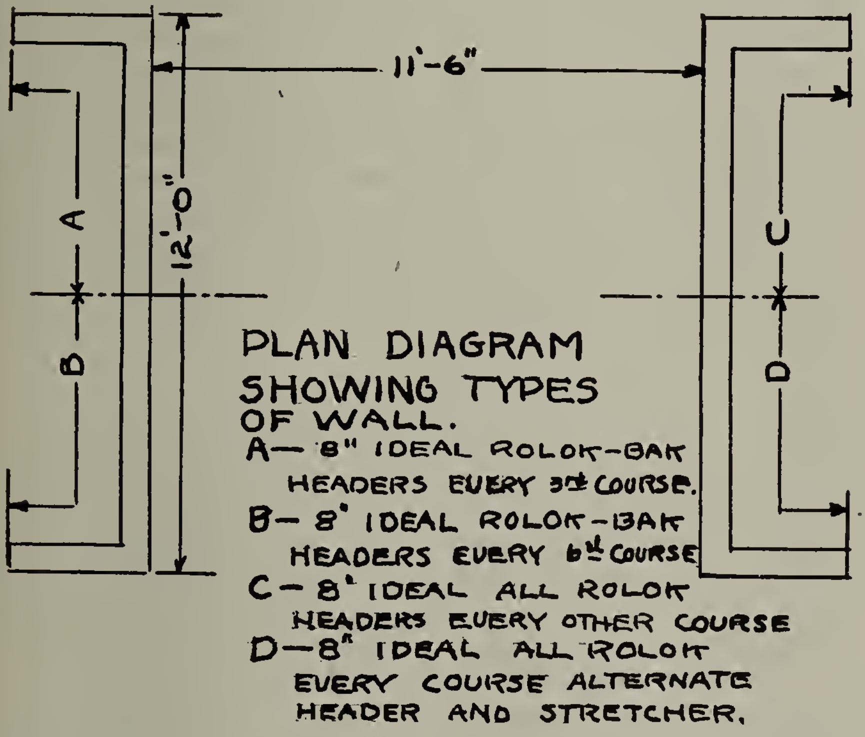

TEST·LOAD·EQUAL·IN·WEIGHT TO: COMPLETE·RESIDENCE.

Graphic Illustration of the Load Which the Ideal Wall Test Structure Built at Cleveland, Had to Sustain.

BRICK HOMES BIG ASSET TO COMMUNITY

In a broader sense, it is to the advantage of the community to have homes constructed of brick. You are quite familiar with one reason for this, for in the fire zones of your cities only homes with fire safe walls are allowed. Brick reduces the damage of fire spreading from one house to another and so makes cities safer. Because of the permanent character of brick, a group of homes with brick walls does not get the run-down appearance of a group of less permanent homes. It is impossible to say whether a brick house is five or fifty years old. Brick homes thus stabilize real estate values.

Every building official here will, I am sure, agree that it should be made easy for every man who builds a home to take advantage, if he cares to, of the qualities of brick.



A Cross-Section of the Walls of the Ideal Wall Test Structure.

Brick is a rich man's material and it is essentially a poor man's material also. The rich man wants a brick home because of its beauty and air of distinction and permanence. The poor man wants a brick home because it saves him a lot of money. The poor man cannot afford to have his house continually tinkered with; he cannot afford to be continually painting its walls and repairing them or to take an annual loss of three per cent. per year on his property thru depreciation.

BUILDING CODES OFTEN BAR BRICK

And yet some building codes make it hard for the little man to have a brick home. I do not believe they do this intentionally, but that is their practical effect. Some of them say to him: "In your district you can build a home of frame construction using 2x4-inch studs, but if you build of brick you must pay a premium by using more material than is necessary." Such building codes tend to undo the educational work now being carried on by the brick associations, the object of which is to impress on the building public that economy in upkeep should belong to a man's home. You can sell a man the idea of having a brick home, but when he gets comparative figures, one set based on cheap construction and another based on good brick construction, plus fifty per cent., which the code says he must have to make it extra good, there is and must be too wide a difference in the prices and in most cases he builds the cheaper house, to his loss and against his will.

A thickness of eight inches for the brick walls of a home, above the basement, is ample, both for the first and second stories. This can be proved by endless examples in practice and by theory.

We are now in process of making an investigation as to code requirements for dwelling house walls. Some of the following data is taken from building codes and some from returns received direct from building officials. Our information is not yet complete and is subject to addition and correction as further returns come in and show that codes have been amended. Thirty-three cities allow an eight-inch wall for both stories of a two-story house. These are: Baltimore, Birmingham, Boston, Cambridge, Columbus, Cleveland, Detroit, Minneapolis, New York, Philadelphia, Seattle, Spokane, Pittsburgh, Tacoma, Washington, D. C., Wilmington, Richmond, Syracuse, Tampa, Worcester, New Haven, Manchester, Rochester, Toledo, Duluth, Hartford, Rock Island, Lynn, Cincinnati, Trenton and Portland, and recently Buffalo and Milwaukee have amended their ordinances to allow the eight-inch wall and Norfolk and Roanoke and many other cities are now considering the matter. That is a most imposing list and many thousands of homes have been constructed in these cities with eight-inch walls and many hundreds of thousands of people find them comfortable and satisfactory. You never have heard of any city which allows the eight-inch wall changing back to the twelve-inch wall. It would not be possible to do so, public sentiment would be so strong against the change.

16 INCH FIRST-STORY WALLS REQUIRED

Taking the other extreme, we find that some cities require the first-story wall of a dwelling house to be sixteen inches thick and many cities require a twelve-inch wall at the first story and eight above. In the light of experience, a building code which insists on these things insists on a waste of material and money. Let us consider the case where a twelve-inch wall at the first story and eight above is required. An exterior wall must support the floors above and form an effective barrier against the elements. The fact that eight-inch walls are allowed for the second story of bungalow walls, indicates that such walls are considered, in those cities, satisfactory for excluding the elements. The question of strength, therefore, remains. Disregarding the experience of the cities mentioned, which would constitute a satisfactory reply in itself, let us consider the actual strength of brick work. The blue prints passed around showed that one complete house can rest with safety on two short sections of Ideal wall, which is probably not as strong as a solid wall. The wall during a test of the Ideal wall meeting showed no signs of distress. We stopped the loading only when the box would hold no more sand. I frankly believe we could pile up several such boxes, holding eighty-three tons, on that wall before it would show any sign of failure.

Test load per running foot on Ideal wall 8 inches thick all types=3.83 tons.

Load per running foot first floor level of ordinary two-story house, 2,219 pounds.

Factor of safety over test load=3.

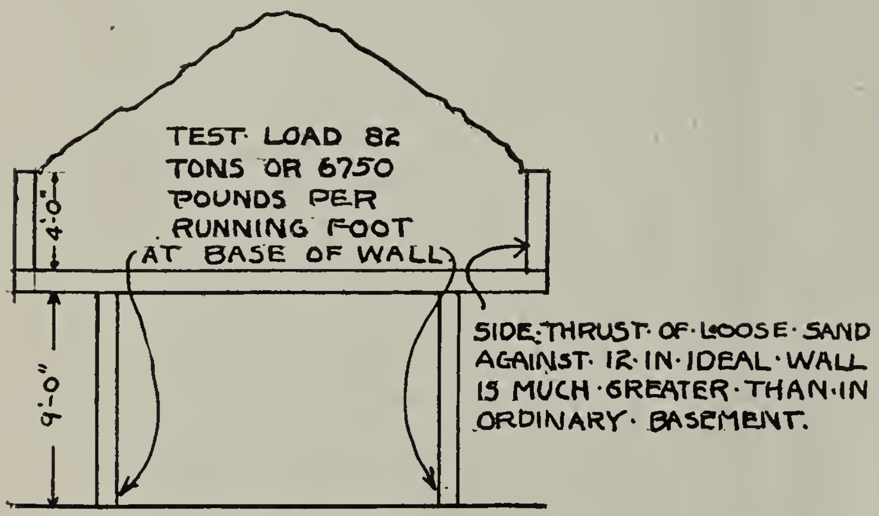
Assuming extreme of 16 ft. span for joists; above arrived at as follows:

Roof dead load	10' × 10 lbs.=	100 lbs.
Roof snow load	10' × 15 lbs.=	150 lbs.
Attic dead load	8' × 16 lbs.=	128 lbs.
Attic live load	8' × 24 lbs.=	192 lbs.
Second fl. dead load	8' × 52½ lbs.=	420 lbs.
Second fl. live load	8' × 40 lbs.=	320 lbs.
Weight of Ideal all-rolok wall from first floor to eaves, 18 sq. ft. at	50½ lbs.=	909 lbs.
Total, per running foot		2,219 lbs.

BUREAU OF STANDARDS TESTING BRICK WALLS

The United States Bureau of Standards is now engaged in making crushing tests on solid brick walls and on Ideal walls, using their huge ten-million-pound testing machine at

Pittsburgh. That is the very first time, to my knowledge, that a brick wall has been placed under a compression test by a disinterested reliable authority. The strength of brick work is so great that such tests have heretofore been confined to brick piers, the Pittsburgh machine being the only machine in existence strong enough to crush a panel of wall eight inches thick, one story high and long enough to get true wall action.


TEST LOAD 82 TONS OR 6750 POUNDS PER RUNNING FOOT AT BASE OF WALL
4'-0"
9'-0"
SIDE THRUST OF LOOSE SAND AGAINST 12 IN IDEAL WALL IS MUCH GREATER THAN IN ORDINARY BASEMENT.

Load applied only 9 days after test structure was completed.

Sand	123,680	pounds
Box and floor	22,320	pounds
Supporting walls	18,000	pounds
Total	164,000	pounds

The Bureau of Standards made a series of tests on large brick piers about two years ago, some of the piers being constructed of what they termed "soft burned or poorest product marketed." The average of three tests on piers of this material 30 inches by 30 inches by 10 feet high, laid in one-third lime mortar—poorest brick and poorest mortar—showed the total resistance to crushing at failure was 12.3 tons per square foot. Eleven similar piers 30 inches by 30 inches by 10 feet high of medium-burned brick—the ordinary brick supplied to a job—laid in cement lime mortar, failed at an average load of ninety tons per square foot.

FACTOR OF SAFETY IN 8 INCH WALLS OVER 45

Remembering that the average story in a small residence is about eight feet high, as against a ten-foot height for the test piers, and as only well-burned brick are used for exterior work, we may reasonably assume, until the tests under way are completed, that the ultimate strength of such brick work, laid in cement-lime mortar—the mortar ordinarily used—will average in the neighborhood of ninety tons per square foot for an eight-inch wall or sixty tons per running foot. The greatest load placed upon it at the first floor line of a residence is not more than about a ton and a quarter, giving a factor of safety of over forty-five for the eight-inch wall. Surely that is conservative enough for anybody.

Experience and theory, therefore, amply prove the eight-inch wall to be weather resistive and to possess much more strength than the loads of a residence can ever develop.

BRICK SUSTAINED FIRE TESTS WELL

The Bureau of Standards is now making a series of fire tests on brick walls, eight-inch and twelve-inch solid walls and eight-inch and twelve-inch Ideal walls. The tests on the solid walls have been completed and the panels of Ideal walls have been built and are now ready for testing.

There can be little doubt, as to a result of the remarkable way brick walls came thru these tests, that the Bureau of Standards will recognize the eight-inch as well as the twelve-inch brick wall as fire-resistive and they ought to pin a medal on it in addition.

For further proof, if proof be needed, that the eight-inch wall is satisfactory for two-story residences, I will quote a recent statement by D. Knickerbacker Boyd, who during the war acted as chief of the Materials Information Section of the United States Housing Corporation. Mr. Boyd said:

"Of the thousands of houses built by the United States Housing Corporation and the Housing Division of the Emergency Fleet Corporation and the many thousands more for which drawings were made, the eight-inch wall was the invariable rule. This thickness of wall was adopted after thoro investigation and most mature consideration, and was even made to apply in several instances in localities where unfortunately at the time the minimum requirements were for thirteen-inch walls. The building authorities in these localities in most cases voluntarily conceded to the requirement of the Government that these houses should and could be built of this eight-inch thickness—in spite of any prevailing provision to the contrary."

That is Mr. Boyd's testimony.

12 INCH WALL REDUCES INTERIOR SPACE

There is another important consideration: that the extra space taken up by the twelve-inch thickness reduces the area of the rooms in the house. In the case of the house already mentioned, twenty by thirty feet, approximately thirty-one square feet of area is thus lost on each story, an area equal to a small bath room or several good closets.

I believe I have shown you convincing reasons why the eight-inch brick wall should be allowed for dwelling house construction. It is enormously strong; it is unquestionably fire safe; it now forms warm and dry walls for the homes of multitudes of people and gives a man of small or average means free choice of his building material, without taxing his preference for good construction. If your code does not permit of its use, I suggest you use your influence to have it amended so that both inside and outside your fire zone the eight-inch wall will be allowed.

The Common Brick Manufacturers' Association has developed a new type of wall, the Ideal wall, a test structure of which was erected in Cleveland. We firmly believe that this wall is going to revolutionize residence construction in America. This wall is absolutely the lowest cost permanent wall it is possible to build. A house of Ideal construction costs, in fact, about the same or less than frame. I am sure you have satisfied yourselves that it will easily bear all the load that can be placed upon it in an ordinary residence. You have observed the principle of its construction, that of laying all or part of the brick on their edge instead of flat.

DEVELOPMENT OF IDEAL WALL BOON TO COUNTRY

Ideal wall construction provides the man of small or moderate means with a permanent home at about the same or less initial cost than a house of non-permanent material. We feel that the development of this wall is a boon, not only to the owner, but to the community at large. It removes what has been the greatest handicap to a more general use of permanent construction, its apparent increased cost. Good construction can now compete in price even in districts where building codes do not operate. It is our firm belief that it will be a vital factor in transforming frame America into an America of brick and mortar, to the great benefit of every man, woman and child in the country.

The eight-inch Ideal all-rolok wall saves twenty-five per cent. of the brick, one-half the mortar and considerable labor over the solid brick wall and saves the furring required to safely insulate the inside of the wall in every other type of masonry construction which has so far come to my attention.

MOISTURE ONLY PASSES THRU MORTAR JOINTS

You observed yesterday that in the Ideal wall is accomplished, with ordinary brick, what has long been striven for by the use of odd shapes and large, awkward units—a break in the mortar joint thru the wall. Moisture can be conducted thru a brick wall by one route only—thru the mortar joint. There is no danger, even in districts with a heavy rainfall, in moisture being conducted the full length of a header by capillary attraction. The Ideal wall provides a positive break in the mortar joint and eliminates the penetration of moisture from this cause. You noted yesterday that the eight-inch wall has one such break and the twelve-inch wall has two breaks in the mortar joint. Moreover, in the twelve-inch wall we have no material in continuous contact from front to back of the wall. The cavity also aids in keeping the wall dry by the slight, but continuous flow, of air within it. This is why it is safe to omit the furring even on the eight-inch wall.

These are not merely theories, but proved facts. Altho the idea of this wall was worked out a few months ago by the Common Brick Manufacturers' Association, we have found here and there an architect or contractor who has independently hit upon this idea and used it in his locality. We have found bricklayers from Russia and Germany who say that this wall is used in certain sections of those countries to keep out the intense cold. In America the Ideal wall has been used most extensively in Phillipsburg, N. J., and in southern California.

PHILLIPSBURG HAS MANY IDEAL WALL HOMES

In Phillipsburg a great many houses have been built with eight-inch Ideal all-rolok walls, under the direction of Paul R. Smith, the architect for this development. You will, of course, agree that an ounce of experience is worth a pound of theory and I will read an extract from a report on these houses, made by the Structural Service Bureau of Philadelphia, who made the investigation:

"In Mr. Smith's opinion, the eight-inch hollow wall house is a very great success, and in a very short time will come into general use thruout the country for all types of houses.

"Mr. Smith (the architect) stated that the houses were not furred and insofar as they had been able to find out, there had been no moisture show thru on the inside of any of the houses erected—and the age of these houses runs from a few months to one year.

Eight-inch Ideal all-rolok wall saves in an ordinary residence 20'x30':
- Over 12-inch solid wall first and second story
  - 15,325 brick; 171 cu. ft. mortar;
  - 96 hours mechanics' time;
  - Proportionate amount laborers' time.
- Over 12-inch solid wall first story and 8-inch wall above:
  - 10,221 brick; 126 cu. ft. mortar;
  - 60 hours' mechanics' time;
  - Proportionate amount laborers' time.
- Saving of 4-inch thickness of wall gives 31 sq. ft. more area to each story.

"In his opinion, the brick header would not carry sufficient moisture to appear on the plaster. The mortar joint—which would carry moisture much more readily than brick, does not run all the way thru.

OWNERS SATISFIED WITH HOLLOW WALL

"I had conversation," the report continues, "with bricklayers, plumbers and carpenters, and all stated that they had never heard any complaint concerning the heating, air leakage around windows, or moisture appearing on the inside wall.

"In conversation with the people living in the brick houses, and in response to definite questions, there was no complaint of either moisture or air leakage—and, in fact, all appeared very well satisfied with their occupancy of houses of this type of construction. We conclude that the eight-inch Ideal wall house is very satisfactory thruout this development. Moisture does not appear to work thru the walls or damage plaster or paper in spite of the fact that there is no furring."

You will agree that this is a most satisfactory record of performance.

IDEAL WALL ABSOLUTELY MOISTURE PROOF

In Los Angeles the Ideal all-rolok wall has also been tested thoroly by practical experience. This wall has come into such wide use in that section of the country that it is now the prevailing type of masonry construction for residences in southern California. L. S. Collins, of the Los Angeles Brick Co., stated at the Common Brick Manufacturers' Association convention in New York City that at the time he left Los Angeles they had just passed thru the first week of their rainy season and the rain had been very continuous and very heavy. He had been at pains to call up a number of people living in Ideal wall homes and without exception all reported that no sign of moisture had made its appearance on the inside of the walls, and in every one of these houses the plaster was applied directly to the brick, without the use of furring.

The test that you have seen shows that the eight-inch Ideal wall is strong enough and the testimony from Phillipsburg and California shows that this wall makes in practice a dry, comfortable home.

NO DATA AVAILABLE ON FIRE TESTS

We cannot offer, as yet, any exact data regarding the exact fire-resistive qualities of the Ideal wall. The Ideal wall panels have not as yet been tested, but I invite your attention to the fact that Ideal walls are built with solid units of brick and the cavities are formed by these units, not tied together rigidly at the corners, but separated by a mortar joint, thus allowing the surface exposed to the fire to expand and contract without danger of rupturing or damaging the material of which the wall is built. In view of the brilliant way in which the solid wall came thru the fire test, I feel sure that Ideal walls will be equally successful.

The eight-inch Ideal wall is at present permitted under the building codes of Los Angeles, Worcester and Phillipsburg, N. J.; and Philadelphia, Wilkes Barre, Roanoke, Chicago and other cities are now considering admitting the Ideal wall into their codes.

Wherever hollow materials or hollow block are permitted, Ideal walls should also be permitted.

After all the tests have been completed the field of usefulness and economy of Ideal construction may be greatly extended.

SAVES CONSIDERABLE LABOR

We state in our literature that a bricklayer can lay more square feet of Ideal wall per day than of solid wall. D. Knickerbacker Boyd states that the comparative time of laying the fire-test panels, which were about sixteen feet long, eleven feet high and eight inches thick, was as follows: Solid wall, bricklayer's time, sixteen hours; Ideal wall, thirteen hours. Remember, too, that the bricklayer was unfamiliar with Ideal construction, while he had been laying brick in solid walls all his life. R. P. Stoddard, secretary of our association, recently met a mason contractor who built a home for himself with Ideal walls, and had no difficulty in laying 1,500 brick per day.

The eight-inch Ideal all-rolok wall requires nine brick per square foot as against about twelve and one-half for the solid wall and weighs about fifty pounds per square foot, as against seventy-nine pounds for the solid wall.

The twelve-inch Ideal all-rolok wall requires from thirteen and one-quarter to fourteen and one-quarter brick per square foot, as against nineteen and one-half for the solid wall, and weighs from seventy-four to eighty pounds per square foot, as against 115 pounds for the solid wall.

IDEAL WALL SHOULD BE ENCOURAGED

The Ideal wall saves one-third of the brick, one-half of the mortar; saves mechanics' time, as well as furring and lath. Especially at this time, when economy and elimination of waste is in order, eight-inch solid and eight-inch Ideal wall should certainly be encouraged and permitted under all building codes.

I would like to say further that as a result of the most exhaustive fire tests on building columns ever made, and as a result of the splendid way in which brick came thru those tests, brick manufacturers are going out more actively after fireproofing business. The tests referred to were conducted jointly by the Associated Factory Mutual Fire Insurance Companies, the National Board of Fire Underwriters and the Bureau of Standards. Eight years, from 1910 to 1918, were consumed altogether in making these tests and the report on them has just been issued. Every building commission and every architect and engineer should have a copy of this report. It is called "Fire Tests on Building Columns," and can be had for $2 from either the Associated Factory Mutual Fire Insurance Companies, 31 Milk Street, Boston, Mass., or from the Underwriters' Laboratories, 207 East Ohio Street, Chicago, Ill.

* * *

Chicago Ceramists Endorse Secretary Plan

Ceramic men residing in the Chicago territory turned out in good attendance at the quarterly meeting held at the City Club, Chicago, Monday, May 23. The meeting was one full of activity, among the business transacted being the endorsement of the plan of the parent organization to hire a full-time organizing secretary, a resolution being drawn up to that effect. Other business transacted was the appointment of C. H. Jones, together with the secretary, W. W. Wilkins, to act on the nominating committee for the 1922 officers of the American Ceramic Society.

It was also decided that the officers of the section be empowered to appoint four persons whom they would recommend to the Board of Trustees of the University of Illinois for representatives of the advisory board of the Ceramic Department.

It was decided that in the latter part of August or the first part of September a full day will be given to a trip by members of the Chicago Section thru various industrial plants of interest.

Three papers were read at the program which followed a dinner. Professor C. W. Parmelee gave an excellent digest of an investigation made on reflector enamel. The purpose of the investigation was to find out the effect of cobalt and nickel oxides on a ground coat for a reflector.

Secondly, it was desired to find a substitute for tin oxide that would serve the purpose for a reflector enamel.

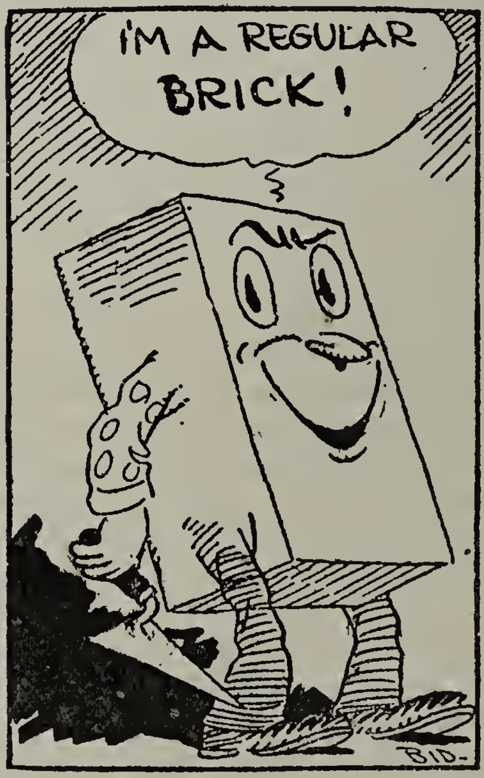
Mr. Nightingale and Mr. Baker each gave an interesting and instructive talk on Pyrometry. The history of pyrometry was given, together with its development, which has been quite rapid during the past few years. Among the points brought out was the fact that most ceramic factories were not paying enough attention to the mounting of the instrument. In many instances it was placed on vibrating walls and in dusty places, despite the fact that the instrument is one of the most delicate of scientific apparatus.

D. F. Albery, who was formerly prominent in the New Jersey Clay Workers' Association, and Eastern Section of the American Ceramic Society, spoke on the advisability of the amalgation of the Chicago Section with the Illinois Clay Workers' Association. He pointed out that this was successfully done in New Jersey to the mutual advantage of both associations, and advocated that the same be done locally. A committee consisting of D. F. Albery, W. W. Wilkins and B. T. Sweely were appointed to confer with a similar committee from the Illinois Clay Manufacturers' Association to consider a plan for amalgamation.

* * *

Do You Know Why "He's a Brick"

There are probably very few persons who have never heard the expression "He's a brick!" But very few know how and where the saying originated. We are indebted to the Spartans of ancient Greece for this cryptic bit of English. The Spartans, by the way, were known as always speaking short and to the point, eliminating all flowery speech.



Reproduction of Cartoon Appearing in the Chicago Evening American.

On a certain occasion an ambassador from Epirus on a diplomatic mission was shown by the King of Sparta over his capital. The ambassador, surprised that the city was not a bristling fortress which overawed all Greece, said:

"Sire, I find no walls built for the defense of the city."

The king, laughing up his sleeve, led his guest out on the plain where the army was drawn up in battle array, and pointing proudly to the serried host he said, "There thou beholdest the walls of Sparta, and every man a brick."

From this legend Plutarch took up the expression and in his "Life of Lycurgus" remodeled it into the now world-famous expression, "He's a brick."

* * *

Big Slumps In Building Labor Now Working

The Chicago Federal Reserve bank recently sent out a questionnaire to brick and construction material firms to which thirty-two answers were received. The replies revealed the fact that during April, 1920, 4,803 men were employed as against 3,105 in April, 1921. The average rate of pay per man decreased 13.3 per cent. 13,191 men were employed by thirty-two contracting and building firms on April 1, 1920 and this number dropped to 3,891 on April 1, 1921. The average pay has increased 18.6 per cent.

* * *

Receives Order for a Million Brick

An order for 1,000,000 brick has been received by the Fairchild Bros. Clay Products Co., of Fairbury, Neb., near Endicott, it is reported. The company has begun work and is turning out brick at the rate of 25,000 daily.

EIGHTY-NINE DANVILLE KILNS

NOW PRODUCING IMMENSE OUTPUT

Danville, Ill., Brick Plants Change the Old Adage, "Where There's Smoke There's Fire to "Where There's Smoke There's Activity!"

RECENTLY a correspondent of *Brick and Clay Record* visited the plant of the Western Brick Co., near Danville, Ill., and was shown about the plant by one of the department managers. He found everything running apparently at full blast.

This is said to be the largest brick making unit in Illinois, comprising as it does, sixty-three down-draft kilns, served by sixteen stacks. It is planned to have each stack serve four kilns. One sign of the great activity going on was the cloud of smoke hanging over the whole area. Another sign was the immense accumulation of common and face brick stacked up on both sides of the kiln area. The capacity of this central plant and its two branches in Danville is 110 million brick a year.

OPERATING FOR TWENTY-ONE YEARS

Shale is the material chiefly used, as is true of most of the brick factories in the vicinity. The digging is done with a steam shovel. The stripping of the ground is performed by hydraulic pressure.

The company has been in existence for twenty-one years and in its digging operations has created a valley. More and more it has been doing big things. It has its own coal mine adjoining the plant; and one of its Danville branches also has a coal mine.

Just now it is completing a new boiler room, in which the coal is to be fed to the furnace automatically. It has electric lighting thruout the entire plant. In all its kilns it is using pyrometers. The sand used in setting the brick in the kilns is silica sand brought from a distance. Its labor is union.

DANVILLE BRICK TURNS OUT 65,000 PAVERS DAILY

W. T. Shaffer, chief clerk of the Danville Brick Co., conducted a tour thru that company's plant and explained some phases of operation and some of the problems. Among other things, he said:

"Our kilns were originally up-draft kilns. But forced draft was installed some years ago, and our superintendent thinks more of this kind of kiln than of any other. We have a line of ten-inch tile laid around each kiln two feet below the paving. From that, four-inch tile run under the floor of the kiln. This enables us to get the same amount of air into the kilns all the time, and assists in equalizing the heat. We find that for burning ordinary brick it requires about 1,850 degrees of heat.

"We have twenty-six kilns, and they have a capacity of 65,000 paving brick and 100,000 building brick a day. The coal cost per 1,000 of brick we have not figured on this year, but last year we kept a close account, and it figured out $6.80 per 1,000 brick, with coal costing $4.25 per ton. (This figures out about 1.36 tons of coal per 1,000 of brick).

USE GOOD COAL TO BURN PAVERS

"We have about thirty acres of shale and are down 130 feet below the original level of the ground; and it has been sounded down that much further. For paving brick we use the shale alone, but for building brick we use a little clay with the shale.

"We find that it requires a very good coal to properly burn brick for paving purposes, as the kilns must be kept at an even heat, which the burning of poor coal does not permit. The coal problem has become such a large one that we are reducing as much as possible the cost of handling it. We now have a conveyor for unloading the coal from the cars. From the storage building it is dumped into carts that distribute it to the kilns.

"As to our power plant we do not need coal. Our main building burned down about a year ago, and after rebuilding we installed electric motors and are buying our power

On the Left Is a View of Part of the Sixty-Three Kilns at the Western Brick Co. On the Right Is a Partial View of the Huge Stock Pile and in the Insert Is Shown the Attractive Office.

The Pall of Smoke Hanging Over the Kilns is Conclusive Evidence of the Activity at the Plant of the Western Brick Co., at Danville, Ill., and the Big Pile of Brick will soon be Laid into Buildings.

from the same company that supplies the city with light and power. We think it is a great saving, for, when the day's work is done we simply shut down the motors and the use of power stops, while before that we had to keep the furnaces going all night, which meant a great waste of fuel.

"The labor question has been the great one with us. On account of it we were shut down from the first day of January till the sixth day of April trying to arrive at an agreement with our men. Failing in that we started up on the open shop plan. Our new men are willing and we are gradually getting the work up to capacity."

* * *

BARGE CAPTAINS' STRIKE TIES *up* BRICK SUPPLY *in* NEW YORK—PRICES STEADY

SIGNS AND SYMBOLS point the way to a turn in building construction affairs in this market that should make the entire industry fairly active during the last half of the year and particularly in the last four months, says the Dow Service daily building report of May 21, 1921.

Between now and the middle of September the last fitful fumblings of industrial readjustments will take place. These readjustments include freight rate corrections, toward which the sand and gravel tariff on the New York, New Haven and Hartford railroad amounting to approximately twenty-five cents a ton on a mileage basis became effective on May 12, is a very definite start.

PRICES WILL RISE IN SUMMER

During the summer months adjustments in building material selling conditions will take place and prices will turn from a downward course to an upward one as is the notable case of linseed oil which, by the way, was the first basic building commodity to mark the turn downward last year from the peak marks. In the next two months there will develop a closer relationship between the volume and value of building permits being granted and actual building construction activity.

The main sustenance of the growing belief that the long deferred general building construction movement in this market will be felt more generally in the autumn of this year is the present increasing activity of architects and engineers in preparing plans and filing them in the various building bureaus and even of awarding contracts on them for action when the building material distribution situation becomes more clarified.

BRICK HANDLERS AND BARGE CAPTAINS ON STRIKE

It is a literal fact that no matter if contracts are awarded at this time actual building construction cannot progress much farther than excavation and placement of foundation footings because of the tie-up in the brick supply due to the combined strike of the brick handlers and the strike of the barge captains. On Friday there was not a single barge load of common brick for sale in the wholesale brick market and the thirty barge loads scattered around the city in various stages of unloading were being ridden to brick-hungry jobs so fast that the situation today is that unless more brick comes into the city soon building material dealer yards must close for lack of construction work.

The points at issue in these two strikes were nearing settlement, however, at the week-end. Some of the brick handlers were back at work on the basis of handling brick at eighty cents a thousand instead of $1 which was the former rate. The brick barge captains who had been receiving $165 a month, refused to take $125 but have offered to go back to work at $145. There is some possibility of a compromise being affected at $135 whereupon brick may be expected to flow into the market again.

BRICK PRICE HOLDS STEADY

It is not likely that there will be any change at this time in the present wholesale price of brick at $14 to $15 to which must be added the usual charges for handling, haulage and ten per cent. for delivery. The market demand will be sufficient to support this price, especially since the production schedules up the river have been set awry by the brick tie-up here. The brick still available for immediate consumption is that manufactured at this time last year when fuel and other raw materials were much higher than they now are.

The last few days has brought quite an unexpected shift in market sentiment toward the relative position of building material prices. It came in the form of observation by Supreme Court Justice Vernon M. Davis to the effect that the reports of certified public accountants established the fact that despite the sharp rise in building material prices building material dealers of New York had not received more than ten per cent. profit. As a matter of fact many of the building material dealers had not taken more than five per cent. profit during or before the time covered by the investigation.

DEALERS NOT RESPONSIBLE FOR HIGH PRICES

This official and judicial revelation of the slight degree of participation the building material distributors of New York actually had in the causes leading to the abnormal peaks attained by building material prices since the beginning of the war, is the only reason the dealers of Manhattan, Brooklyn, Bronx and Queens were able to offer at the week-end for the sharp increase in call for building materials, mainly for habitation building purposes.

Architects and engineers looked upon the situation as developed by Justice Davis' observation as having possibilities for quickly correcting the conviction of prospective builders, heretofore solidly grounded, that building material prices were to drop to still lower levels "when building material dealers were forced by the investigation to stop their profiteering." This incident offered the first case where a judicial mind had had an opportunity to scrutinize the innermost factors in building material distribution cost and the outcome of that scrutiny was that building material dealers in this market had not been taking even a normal business revenue out of their transactions during and since the war years. Despite the brick blockade the effect of this observation upon the market was electrical.

Aside from the slight cut in the price of second-hand brick and another sharp advance in the price of linseed oil the building material market enters the last week of the first half of 1921 with prices fairly well sustained in all departments and a much clearer perspective.

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Indiana Suppressing Building Bond Issues

The trade is much concerned in a new policy of the Indiana state board of tax commissioners, which will result in a small amount of public construction being started this year. The state board has adopted a policy of rigid suppression of bond issue proposals. John J. Brown, a member of the board, has stated that the disinclination of the board to authorize any except necessary issues has met with the Governor's approval.

FARM RESEARCH WILL AID HOLLOW TILE PRODUCER

Outline of What Should be Done for Agriculture That Would Mean More Business for Everybody —How the Tile Manufacturer Is Affected

By E. G. Meredith

Former United States Secretary of Agriculture

IT IS TRITE to talk about agriculture being fundamental and that we want the farmer to produce and that the prosperity of all of us depends upon the farmer and so on, and yet how much attention do we give to the situations and the conditions that vitally affect that fellow and that we get the swing back from.

Today there are three million idle men in the United States! I was just recently talking with a manufacturer of electric lighting plants, home lighting plants, farm lighting systems and so on. We were discussing the idle men from his plant and his argument was, that if the farmers of this country would just step out and buy a barrel of flour each, that it would so increase the price that they could buy the electric lighting plants and the factory could put its men to work again. It seems to me that that idea is entirely wrong,—that it is not up to the farmer to go out and buy his own product in order that he may be in a situation to buy the other fellow's product. I do believe, however, that those men are out of work as a direct result of the drop in prices of farm products.

FARMERS SUFFERED HUGE LOSS

I do not argue that farm product prices should have stayed up to the point where they had been, but I do believe that every business man in the nation is suffering because there was such a considerable drop taken in farm commodity prices and so great a deflation accomplished in the short time that it covered. If the farmers of this country have suffered a loss, whether it is paper profits or not,—you and I worry about as much over paper as actual profits,—we are about as discouraged at the end of the year if we have not met our expectations as we are if we have sustained an actual loss of money, in other words, we figure our profits are going to be so much, that we are going to have so much more investment, we are going to have so much for enlargements, and then something happens. It doesn't come, and we are just about as hard up, so far as our branching out is concerned in the loss of paper profits and expectations as we are with the same profit of which we have lost a comparable amount.

The farmers did plan their crops. They put in their crops. They conducted their farm operations on the basis of high costs to them. You charged them high prices for tile, the woven wire fence people charged higher prices, the gasoline engine, the farm machinery, the fertilizer, the shoe bills, grocery bills, farm lighting plants and everything else were on the basis of high cost, and yet along comes a harvest price which means a difference between a price they reasonably could expect and what they were forced to take, of five billion dollars.

Now, five billion dollars, translated into orders means five million one-thousand-dollar orders. If you take five million one-thousand-dollar orders away from the business men of this country they have lost some orders. I believe that the reason the automobile plants are shut down, the reason that the lighting plant is not running up to standard, the reason that there is this report regarding the tile industry that I saw in a trade report, "Clay products, readjustments continue, stocks are heavy altho demand is increasing, no great increase can be expected due to dull business conditions. Outlook for spring and summer only fair." Now that is a trade report on your line of business, clay products, and I think that the condition exists because the farmer has been obliged to suffer a real loss in the prices at which he had sold his product. I do not think that that is safe for business, safe for agriculture or safe for the country; I believe that agriculture should be put on a permanently sound foundation.

I have my own notion of what might be done. You might say it was visionary, and I am certainly not advocating it, and I am not going to discuss it. All I want to do is to interest the business men in agriculture that together they may in some way protect agriculture, not because the farmer alone is interested, but because the prosperity of the truck manufacturers, the tractor manufacturers, the farm-lighting plants, the railroads, and all business; trace back business as far as you like, and you will find that somewhere it is a farmer that makes it possible.

ALL BUSINESS CAN BE TRACED BACK TO FARMER

You can have here in Chicago, a dentist, if you like, and the dentist says: "I don't live off the farmer. I live off the lawyers. I am in a building where there are nothing but lawyers. I only do business with them." The lawyer says: "I don't live off the farmers. I certainly haven't anything to do with them. I live off of the moving picture shows." The moving picture man says: "I don't live off the farmers, certainly. I am catering to the men who work in the packing plants." These men in turn say that they don't live off the farmers because they say they get their salary from the packing company, but off whom does the packing company live? You can take any line of business and follow it back and you will see somewhere there is a farmer that starts the chain, and when the farmers cannot buy, you can't sell tile and you can't sell machinery, shoes, etc., and business is depressed.

So it seems to me as good insurance that we should take an interest in agriculture. There is the Department of Agriculture. There is your state agricultural college, there are your experiment stations, and your county agents. There are two thousand of those men traveling over the United States carrying to the farmers better methods in agriculture, giving them

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Editor's Note:—This article is part of an address delivered before the Hollow Building Tile Association convention on March 30, 1921.

booklets, if you like, as to how his farm building should be constructed, the material that he should use, what the hazards are on buildings that are rodded for lightning, what the life is of tile as against lumber, what the upkeep is on each of them, and so on, telling them how to avoid hog cholera, what the rotations of their crops should be, how to do the innumerable things that arise on the farm every day. Yet, a congressman from Chicago got up in the house recently and said that these two thousand men were high-collared fellows, wearing patent leather shoes, who never got off the sidewalks and he did not want to see the money appropriated for them.

LOW PAY FOR MEN ON AGRICULTURAL BUREAUS

Well, we made a survey of some five or six hundred of those men who had resigned their positions in the department and asked them why they resigned. The larger percentage said they resigned because the pay was not satisfactory, and the next largest percentage, which was almost as great, said that they resigned because of the nerve wracking work,—that they were out in all kinds of weather,—that they were so hurried from this farmer to that farmer, trying to solve this problem and that problem that they couldn't stand the work. I wonder how many of us would vote for that kind of a congressman. None of us, if we only took an interest, but ninety-nine per cent. of us because we do not take an interest. Ninety-nine per cent. of us, because we put our party first. I don't care what party it is. I don't care whether we belong to the democratic party or the republican party, ninety-nine per cent. of us seem to vote the party, whoever is on the ticket, regardless of his record, regardless of whether he takes an interest in what you are interested in, regardless of whether he talks fundamentals or plays to the gallery.

HOLLOW TILE RECOMMENDED FOR DAIRY BUILDINGS

In the Department of Agriculture there are seventeen great bureaus. The Bureau of Animal Husbandry, by the way, has recommended hollow tile for dairy buildings,—farm buildings for live stock, because of the condensation that comes from stone buildings,—because there must be an air space in such buildings. They are talking hollow tile. That is one of the great bureaus. Then there is the Plant Husbandry, and the Forest Service,—there are all these different departments that have to do with agriculture,—seventeen of them,—they are doing research work, finding out how to get rid of the cattle tick that is costing the farmer forty or fifty million dollars a year, that might just as well be spent for tile.

They are getting rid of hog cholera that is saving forty million dollars a year, and that adds to the possibilities of the sale of tile. They are conducting research work of the most far-reaching importance, and that work is going on in seventeen bureaus; it should be supported. It should be encouraged. It should be directed, and yet how many of us talk about these research men as long-haired scientists, slackers, loafers, men who are in Washington because they are in soft snaps. That is just popular. That is just the usual thing today, instead of endorsing, encouraging, standing up for them and recognizing the value of their work. There should be a change in our attitude.

SEVENTEEN BUREAUS DOING RESEARCH WORK

These seventeen bureaus are doing research work and the same seventeen bureaus are doing regulatory work. The quarantine against the hoof and mouth disease, the quarantine against the pink boll worm, the quarantine against all plant diseases that might be brought in here, quarantine in every direction, the enforcement of the meat inspection law under which every pound of beef that you men eat, every pound that goes on your tables for your children to eat, has been inspected by someone and passed as wholesome and fit for food. That is a regulatory act that should be supervised so that your food will be pure and so you will not buy, as you have bought in the past, or at least if you didn't it was your good fortune, timothy with glucose as strawberry jam, which is an honest fact, or cedar sawdust mixed up with your pepper that your wives no doubt have bought in the past and many other things that business men do and have done. The pure food law is another regulatory act, and many others that I could enumerate.

Now, as mentioned, there are seventeen different bureaus, and we asked in the appropriation this year that we might have a director of research, one man in the secretary's office who would supervise this work, one man as a director of the regulatory work who would supervise these quarantine laws, and so on, somebody to whom the director of a bureau could come for advice and cooperation, some one who would say, "Don't do that, because that is being looked after by this other bureau, or that bureau, and we want to cut out duplication, put more of the efficiency and business into it that you have heard so much about." We asked congress to give us those two men at a salary of $7,500 each. The committee on agriculture in the house said no, we won't do that, but we will give you one of them at $5,000, and they passed the bill over to the senate carrying one man at $5,000.

EACH STATE HAS EXPERIMENT STATION

The Department of Agriculture has no director of research. In the United States there are forty-eight experiment stations. Each and every one of the forty-eight have a director of research, drawing a salary greater than the head of any one of these seventeen bureaus, and yet the Department of Agriculture is spending more money for research than all the forty-eight states put together with their forty-eight directors, and your congress says to you that you may have one director of research at $5,000. I leave it to you, can you find a man competent to fill the position?

It takes a $15,000 man and you can find a $15,000 man for $7,500 if he can just live, because they are earnest, they are interested. One man who resigned there refused a $13,000 job. Since I went to the department I know of several instances where men have stayed on for $4,500 and I know of Dr. Ahlsberg who could have taken a $20,000 job any day he wanted and have left his position as head of the Pure Food and Bureau of Chemistry, but he has resigned to go to California and is working for $5,000. That is the type of men that you would have to get even at $7,500, but congress says, "No, we won't give them that. We won't give you two of them. We will give you one."

CONGRESSMEN THINK IN TERMS OF VOTES

It goes over to the senate and senate says finally, we will give you two of them, but certainly not at $7,500,—at $5,000, and why? Because you men as business men would say to them that they were not economical, that they were running wild, that they were really paying a salary that would induce somebody to take up this important work. I leave it to you if that would not be the reaction over the country, and if that is not a reason why men who have got the brains that our congressmen and our senators have, or in some cases are supposed to have, as they haven't all got them, if they could not recognize when you or I walk in and sit down and discuss the thing with them, that it was the business thing to do.

They told me it was, but they said: "We can't do it." I asked them why, and they said: "We just can't do it. We have got to economize." What do they care about economy? Votes. That is all translated into votes, because in the same bill there was an appropriation for free seeds. We got it down last year by a good deal of work to $190,000 from some $300,000. It took three votes to pass it this time, but in the bill in which they could not give you $15,000 to head up your research and your regulatory work they increased the appropriation for free seeds from $190,000 to $380,000, just a 100 per cent. increase, and it does not do as much as we asked for. We asked for two men, keymen, vitally important to the department.

SHOULD PROTEST AGAINST NEEDLESS EXPENSE

Why do they do that? So that they can send you a package of free seeds with their names on the corner, because they find it means votes. I ask you whether or not we as citizens, are doing the things that we should do as citizens and as business men, when we permit such things just to go along without a protest? Are we cultivating this field in which we want to help remove the hazards from agriculture by research and regulatory work and then stand for an appropriation for ten times as much for free seeds? I say to you that we are just as blind to what is good business and to our interests when we do not protest such things, as congress is doing, when they appropriate money for free seeds and do not appropriate it for those things, because congress gets results. They do get the votes.

We asked that the appropriation be cut on the year book. Five hundred thousand copies of the year book are printed and it is a valuable book, but we said to them that 30,000 copies would be enough to furnish to each of the county agents, to every experiment station, every agricultural publisher and all those directly interested in agriculture and they said no, it was a good book, they would print half a million copies. Why do they print half a million? Just because they can send them out over the country.

THOUSANDS OF SILOS TO BE BUILT

I saw the advertisement of one senator, it was a letter anyway to an agricultural paper within the last twelve months, saying that he had, I don't know the number of copies exactly, but say 1,900 copies of the 1910 Year Book, 700 copies of 1911, 300 copies of 1912. Won't somebody please write me for them? In other words, they are used as campaign documents again, that somebody may do somebody the courtesy of sending them a book at your expense, instead of using that money in a way to develop this field.

What does research mean? What does it mean to you? One of your big territories is the wheat territory here on this list of farmers who expect to build silos and North Dakota stands first, so far as the percentage is concerned. Let me give you exact figures of the farmers there who expect to build silos. The average of all farmers having silos is twenty-nine per cent. The average of all farmers who expect to build is twenty-two per cent. Those who expect to build in North Dakota is thirty-three per cent. and that is answered by the fact that there is a low percentage of those who own silos, which is only seven, whereas forty-two per cent. in Indiana have silos and only nineteen per cent. expect to build. So a big market for silos on the basis of the number of the farmers there who wish they could have a silo is North Dakota with thirty-three per cent.

FIND DROUGHT-RESISTANT WHEAT

Well, this research work found that in this territory in the northwest, Dakota and Montana, an arid or semi-arid territory, that they should have a wheat that was drought resistant, or would produce a crop in that situation, so they searched the world and they found a durum wheat, a macaroni wheat, and they grow it up there, and are getting fifty million bushels of durum wheat where otherwise they would not have it. What does an additional fifty million bushels of wheat mean in selling silos or in the sale of hollow tile? A whole lot. We did that for that territory. That is the result of research work, and yet in that territory more farmers have gone bankrupt, more silos have not been built, more children have been kept out of school, more farmers have been discouraged and homes broken up due to a failure in agriculture than any other section of the United States, and due to one cause, wheat rust.

Farmers in that territory have lost from fifty million to as many as two hundred million bushels of wheat in a single year from wheat rust. What does that mean? That there are no new silos, no sale for hollow tile, no sale for gasoline engines or farm lighting plants. So these men said we must solve this problem. A research worker who is not permitted a director of research work, must work largely on his own initiative. These research workers in the Department of Plant Husbandry, these long-haired scientists, these men that we speak of slightingly, these slackers and these loafers, discovered that wheat rust is caused by a fungus and that that fungus winters on the barberry bush and if you pull up the barberry bush you get rid of the fungus, and when you get rid of the fungus you get rid of wheat rust.

GET RID OF BARBERRY BUSH

Now pulling up barberry bushes in that territory—what does it mean? It means a saving for the farmers of 100,000,000 bushels of wheat per year. It means many, many dollars if you put it on the basis of dollars alone, and yet you can refuse to appropriate the money to pull the barberry bushes. Congress said: "Why do it at once? Why not spread it over ten years so it won't look so big?" Why wouldn't it be good business to go out and pull up the barberry bushes and get rid of them and have nine or eight or seven more crops, get thru with the barberry bushes as quickly as we can, but you would protest that your taxes were too high and that congress was not economical and they won't do it because they don't want to lose a vote.

Now that is the fact. I am not scolding. It doesn't mean any more to me than it does to you, but isn't that the situation? Are we good business men, and are we good citizens if we do not give our attention to these things? I could go on with innumerable illustrations here in this territory.

If you have hogs, if you have cattle, you need silos, and if you buy silos I suppose you gentlemen will say they should be built out of hollow tile. Then you are interested in the hog proposition, just as much interested in the hog as you are in anything else. You can follow it back the same as you can the question, who lives off the farmer, or who do we live off of?

$4,500 MAXIMUM SALARY

Hog cholera costs $40,000,000 a year. A man in the Department of Agriculture, still there, getting the maximum salary that is allowed any scientific worker or technical worker in the department, unless congress makes a special law for him, the largest and highest salary is $6,000, the engineer in charge of roads who spends $250,000,000, $350,000,000 for you, gets $6,000, but they had to pass a special law for that, the limit is $4,500, this man gets the $4,500 and he discovered an inoculation for hog cholera. It has been put into general practice and you have cut down the loss of hog cholera $40,000,000, but approximately that much is still being lost because you have got to show these farmers. You know how it is when you try to sell a hollow tile silo as against a wooden silo. It is just exactly the same way when you tell them that this inoculation will do the business. You have got to show them.

We had 154 men traveling in the United States demonstrating the use of this serum, showing the farmers the results other farmers had gotten, taking counties in which the losses had run from ten to fifteen and twenty-five per cent. from hog cholera and proving to them that the losses had been reduced to one-half of one per cent. One of the counties, in which Evansville, Indiana, is located, they reduced the losses to one-half of one per cent. The committee of congress who could get the information, who could discuss it, reduced the appropriation of $188,000, and then a congressman from Connecticut,

(*Continued on page 932*)

TRACING 109 YEARS *of* REFRACTORIES MAKING

How the Products Vital to Our Metallurgical Industries Developed and Grew in Importance is Told by a Veteran of Forty Years Activity in the Industry

By C. B. Stowe

President, Stowe-Fuller Co., Cleveland, Ohio

WE ARE NOW USING for refractory work the following refractory brick, which are mentioned in the order of their importance: Fire clay brick, silica brick, magnesite brick and chrome brick.

The first refractory brick made in this country were made from fire clay, which is a combination of silica and alumina, with a minimum fluxing content. Large beds of fire clay were first known in New Jersey, and the honor of being the first producers of fire brick in the United States would fall to that state. The first fire clay brick were said to have been made in 1812, altho just where the plant was located is not known. It is definitely known, however, that in 1825 the Salamander Works, of Woodbridge, N. J., (no longer standing) was in operation. This was followed by the erection of a factory by John Watson in 1833, which remained in operation for a number of years. This plant was on the Raritan River on the present site of the Raritan Copper Works.

FIRE BRICK HISTORY BEGINS 100 YEARS AGO

It is also stated that fire brick were made in Florida and shipped to New Orleans in 1827, but the location of plant and the data in regard to such shipments is not confirmed. Fire clay stove linings were made in Connecticut in 1337. These brick were probably made from New Jersey clay transported to Connecticut.

In 1830 Pennsylvania history tells us that three seams of coal and a thick bed of fire clay were discovered on Queens Run, Lick Run and Tangascootac Creek in Clinton County, Pennsylvania. This material was at the head waters of the west branch of the Susquehanna River, the farthest point west that water transportation could be had, and William P. Farrand, of Philadelphia, acted as agent for Boston capitalists and started an operation at Farrandsville, Pa. At that time the location could only be reached by a horse path at low water, and the coal and clay was opened up and an iron works started with a capacity of ten tons of nails per day.

ABANDONED IRON PRODUCTION AND DEVELOPED CLAY

About $700,000 was expended by the company, and a steamboat was constructed for towing the coal and other material down the river. This operation was later abandoned, from the fact that the iron ore was too low in iron content, but the fire clay was afterwards developed, and the site of the plant is now the Farrandsville plant of the Harbison-Walker Refractories Co. The first fire brick in Pennsylvania were made on this property, and the first bituminous coal developed for commercial use in Pennsylvania with transportation to the east was mined in this section.

The first permanent development in Clinton County, Pa., for fire brick was begun at Queens Run in 1836, and operations have been continued up to the present date by the Queens Run Fire Brick Co. Clinton County clay—both plastic and flint—have continued to hold the highest reputation, and the clays are now utilized by some of the leading fire brick plants in Pennsylvania. At Lock Haven, Mill Hall and Beech Creek, Pa., the coal veins were neglected, altho one of the veins of coal was of the same grade as the Blossburg vein, which is the highest grade in Pennsylvania, from the fact that the veins were small and transportation poor.

MT. SAVAGE FIRE CLAY DISCOVERED IN 1837

The Lock Haven Fire Brick Co., who has used the Tangascootac clay for years, is now opening up the coal mines on the Tangascootac Creek which were abandoned in 1840, and some of the best coal and clay in the state is now being developed in that section.

In 1837 the Mt. Savage, Md., fire clay was discovered, and two years later the Union Mining Co. began operations which have continued up to the present time. About this time also, the lower Kittanning plastic clays and the Clarion County flint clays of Pennsylvania were mined by S. Barnes & Co., of Rochester, Pa. In 1842 James Glover discovered the Bolivar fire clay at Bolivar, Pa., and started a small fire brick plant there. He took his brick to Pittsburgh by boat and developed the business at Bolivar, Pa. Kier Brothers, of Salina, Pa., began operations in 1845, and the operations are continued there by the Kier Fire Brick Co.

Fire brick production made a spectacular rise from approximately one-sixth the value of common brick in 1895 to considerably beyond in 1917 and 1918.

The highest production of fire brick recorded was the 1917 total of $58,012,264. In this year it surpassed common brick, next highest in value, by $10,075,920. In 1918 fire brick lead common brick by $12,865,181. In 1919, however, fire brick dropped behind to the extent of $22,050,000, but still maintained second place by a comfortable margin.

REFRACTORIES INDUSTRY DEVELOPED WESTWARD

The fire clay brick industry moved westward in its developments, and in 1846 the manufacture of fire brick was commenced in St. Louis with a small factory located on Gravois Road. This factory is no longer in operation, the oldest of the present plants being that of the Evans & Howard Fire

Brick Co. and the Laclede Fire Brick Co., established in 1855, followed in 1857 by the Christy Fire Clay Co. and the Parker Russell Mining & Manufacturing Co. in 1866.

Fire clay was discovered along the Ohio River in connection with coal in 1840, and there was a small plant started at Wellsville, Ohio, in 1842. About the same time—the Rainbow plant was established at New Cumberland, W. Va., by James S. Porter. There was also a small plant at Hammondsville, Ohio, which was started about 1846. A larger plant was built at Empire, Ohio, by Francy and Stewart in 1869. This plant, after several fires, is still in operation on the old site by The Minor Fire Brick Co.

Table Showing Production of Fire Brick and Common Brick, and the Relation Between the Amount of Iron Ore Consumed in the United States and Number of Fire Brick Produced.

Year	Number in 9-inch Equivalent	Fire Brick (Value)	Common Brick (Value)	Iron Ore Gross Tons (U. S. Consumption)
1895		$ 5,279,004	$31,569,126	17,203,255
1900		9,830,517	38,621,514	26,722,583
1905		12,735,404	61,394,383	43,433,138
1910		18,111,474	55,219,551	55,246,129
1915	833,739,000	18,839,931	42,145,292	56,286,058
1916	1,166,592,000	30,806,129	49,357,411	78,211,154
1917	1,631,316,000	58,012,264	47,936,344	75,567,889
1918	1,373,674,000	51,647,639	38,782,458	
1919		36,170,000	58,220,000	

FIND FLINT AND PLASTIC CLAY IN DOVER, OHIO

About 1850, both flint and plastic clay was found with coal in the hills around Canal Dover, Ohio, of a similar character to the Mt. Savage clays, and a small plant was built in 1857 by the Dover Fire Brick Co., and these clays were hauled by team from a radius of ten miles to this plant. The brick were largely used for puddling furnaces and charcoal blast furnaces, which were used at that time in Ohio, Michigan and Indiana. Later, it was found that teaming was too expensive for competition, and as the best bodies of clay were located near Strasburg, Ohio, the Dover Fire Brick Co., moved its plant to the clay, and Strasburg is now the central location of five large modern plants which have developed on account of the quality of the clay and the cheapness with which it can be mined in connection with coal with steam shovels.

Flint clay and plastic clay was also found in southern Ohio in the Portsmouth and Oak Hill districts, and between 1880 and 1888 plants were developed at Portsmouth, Oak Hill and South Webster, Ohio, and a very satisfactory blast furnace brick was made in that section by a combination of clays for many years.

CLAYS LOCATED IN KENTUCKY IN 1880

The fire clays of Lewis County, Kentucky, were mined as early as 1871 and used for making fire brick at Cincinnati, and the plant of the Kentucky Fire Brick Co. at Portsmouth, was built in 1870.

About 1880 the Kentucky clays were located and fire brick were made at Ashland, Ky., by the Asland Fire Brick Co. in 1888. In 1895 the Olive Hill Fire Brick Co. commenced operation on the clays from the Olive Hill, Ky., district, and today there are five modern plants in that district outside of the original Ashland, Ky., plant which first used these Kentucky clays.

A large number of new plants were started during this period in Pennsylvania, as choice clays were developed in Clearfield and Clarion counties, Pa. The Woodland Works in 1871, the Retort and Manorville plants in 1872, Phillipsburg, Pa., plant in 1893, the Clearfield, Pa., plants in 1894, the Beech Creek plant in 1900.

Plastic fire clay of very good quality was found under the coal near Ottawa, Ill., in LaSalle County, and a plant built there in 1879. This operation has been extended several times and is the present site of the Chicago Retort & Fire Brick Co.

MISSOURI FIRE CLAY DEVELOPMENT VERY RAPID

About this time very good fire clays were located in Central Missouri, and the manufacture of brick commenced at Fulton, Mo., and Mexico, Mo. This section has developed in the past ten years to a larger extent than any other district in the manufacture of fire clay brick, and several plants of large capacity are operating in this district.

The Dakota clays of Colorado, which were discovered in 1866, and first operated around Golden, Colo., were further developed at Canon City in 1900, and since that at other locations in Utah, Montana and South Dakota.

The fire clay brick business developed and kept in touch with a remarkable increase in the iron business until about 1885, when the open hearth furnace—both basic and acid—began to replace the Bessemer process. This required a new line of refractories, and silica brick, which had heretofore been used only in small quantities, and were imported from England, except for a limited amount which were produced in this country. The first experiments on silica brick, I think were made by J. Park Alexander, Akron, Ohio, who started the manufacture of silica brick in Akron about 1867. He conceived the idea of making silica brick after seeing the Dinac and Abernath imported brick, and made them from a conglomerate quartz pebble which was found near Akron, Ohio.

SILICA BRICK USED IN OPEN HEARTH FURNACES

The manufacture of silica brick went forward from that time in a very small way until Isaac Reese commenced making some at Manorville, Pa., from what is known as "Juniata Ganister," but the large business in silica brick did not become important until the open hearth furnace developments began to materialize; then Harbison-Walker Refractories Co., at Pittsburgh, Pa., and Haws & Sons, at Johnstown, Pa., began the manufacture from Juniata Ganister by bringing the stone to their plants.

It then developed that it was necessary to make silica brick to get the best results in cost—at the source of the material, and large plants were developed at Mount Union, Alexandria, Claysburg and Hawstone, Pa., to supply silica brick to the eastern market.

As great developments had been made in Chicago and the west in open hearth steel plants, and very good rock had previously been shipped from Baraboo, Wis., to the steel plants at South Chicago, Ill., for Bessemer linings, L. D. Doty, former purchasing agent of the Illinois Steel Co., should be given credit for bringing to the Chicago district the silica brick plants now located at East Chicago and Joliet, Ill., where Baraboo ganister is brought down from Wisconsin, and has been made for some years into silica brick to supply the requirements of silica material in that district.

FIRST MAGNESIA BRICK WERE IMPORTED

First-class silica brick are also made at Canon City, Colo., Salt Lake City, Utah, and in the last few years a development of silica brick has been made in eastern Pennsylvania near Dowingtown, from the ganister rock in that section, and today the manufacture of silica brick stands second only to fire clay brick in quantity and capacity of operation.

When the basic open hearth furnace was established it was necessary to find a basic material, and magnesia brick and magnesia bottom material was first brought to this country from abroad. The first magnesite brick that ever came to America, I believe were brought here in about 1882. The Canadian Copper Co. put up an experimental plant at

Brooklyn, Ohio. The writer was asked to supply some magnesite brick, and had never heard the name mentioned at that time in refractory work. He wrote to some of the leading engineers in the east and could get no information. The French engineer who came to build this plant, had used some in France that were made in a small way, and a carload of these brick were imported for this work. The brick were made in France of Grecian material, and the Canadian Copper Co. should be given the credit for using the first magnesite brick ever brought to this country.

AMERICAN MAGNESITE BRICK RECENT DEVELOPMENT

For a number of years magnesite brick were imported from England, and afterwards from Austria and Hungary. The first operation here on magnesite brick was by the Fayette Manufacturing Co. at Layton, Pa. This plant was afterwards sold to the Harbison-Walker Refractories Co., who started later in the manufacture of magnesite brick at Pittsburgh, and later developed the manufacture of magnesite brick at Chester, Pa., so that the imported material could be landed at the plant. In 1905 the manufacture of magnesite brick began at Alexandria, Pa., by the Federal Refractories Co. and about the same time by the Haws Co. at Johnstown, Pa., and later by the American Refractories Co., at Joliet, Ill., and who found it necessary to develop a plant at Baltimore, Md., to be on seaboard for the foreign material. During the war period magnesite brick were also made at Sandy Ridge, Pa., and near St. Louis, Mo.

At the outbreak of the war,—the only refractory material that America was not fully prepared to furnish in any quantity was magnesite material for the manufacture of basic steel, and the government and steel manufacturers were very doubtful whether the refractory manufacturers could furnish in quantity sufficient American material to keep up the output of steel, which was then going at the highest rate in the history of the steel business. Prior to the war, ninety-nine per cent. of all the magnesite brick made in this country were made either from Austrian calcined magnesite or Hungarian calcined magnesite.

SYNTHETIC MATERIAL GIVES EXCELLENT RESULTS

During the war this material could not be obtained, and a synthetic grain material for the manufacture of magnesite brick was developed in this country, which gave equal—or better results—than the Austrian material, from the fact that it could be made more regular than the natural product from abroad.

It is necessary to calcine magnesite material before shipment, from the fact that the crude material contains fifty-two per cent. CO_2 gas, which is thrown off in the burning of the material before being made into brick, and it is impractical to ship any great distance the crude material and take the losses that are necessary in reducing same. The natural crude material found in the Tyrol and Carpathian Mountains in Austria and Hungary, contains the requisite amount of iron in the natural state for the making of a good bottom material or brick without any admixture, but it also carries a varied percentage of lime in the free state, which makes it impossible to hold it if it is in any quantity. By the synthetic process, the material made in this country, either from American crude material or imported crude material, it is possible to add the iron—which is the fluxing element—to any desired amount for the necessary work.

AMERICAN MAGNESITE PROVES SATISFACTORY

A large operation for the manufacture of grain magnesite, which is the basis of magnesite brick or bottom material, has been located since the war at Chewelah, Wash. Also at Magnesite, Que., and the results obtained from both of these materials have in many cases been fully as satisfactory as the Austrian material before the war, and a large amount of Canadian grain magnesite has been shipped abroad to some of the leading steel plants on the other side. This country would have been handicapped during the war period, had we been unable to get magnesite on this side, but American ingenuity took the crude materials we had and duplicated the Austrian materials in a scientific way more regular than the natural materials which were formerly used, so that the output of steel was increased over former production during that period with synthetic material.

CHROME BRICK USED FOR COPPER SMELTING

Chrome brick came into use in a small way as a neutral brick between the silica and magnesia brick, and also for copper smelting. The manufacture of chrome brick has not been very extensive, and they have been made at Pittsburgh, Pa., Chester, Pa., Alexandria, Pa., Sandy Ridge, Pa., Baltimore, Md., and Joliet, Ill. The use of chrome brick increased during the war period, from the fact that they could be used in place of magnesite brick, but on the return of the supply of magnesite brick at a fair price—chrome brick have not shown very much demand, and in presenting this fact to one of the leading refractory authorities in England, he tells me that the same thing has applied in England, and that a chrome cement is being used between the silica and magnesia brick in many places where chrome brick were formerly used.

* * *

Refractories Prices Steady

The refractories market is stagnant for the most part, no great buying activity being displayed by the steel or other industries. Prices on the whole remain fairly steady as there are no reductions in manufacturing costs to warrant price cutting. Silica brick, however, has been cut $5 per thousand bringing Pennsylvania brick down to $35 and $40. A total reduction of from thirty to thirty-five per cent. from the peak price of $55 has now been effected tho this drop has not been the result of a corresponding drop in costs.

Buyers are confining their orders to their immediate needs, using every brick they have in stock even to the culls. When the demand does break it is expected to tax the capacity of the manufacturers. A Pittsburgh manufacturer recently received an order for 200,000 brick and at this time this is considered a fairly large order. Bauxite brick are still in active demand by the glass industry and especially the glass for illuminating and table ware purposes is keeping up work in the refractory industry to some extent.

Prices on fire clay brick are as follows: Pennsylvania No. 1, $36 to $43; Pennsylvania No. 2, $30 to $35; Ohio No. 1, $36 to $40; Ohio No. 2, $30 to $35; Illinois No. 1, $40 to $45; Illinois No. 2, $30 to $40; Kentucky No. 1, $36 to $40; Missouri, high grade, $40 to 45; Missouri No. 1, $35; Maryland No. 1, $40 to $55; Maryland No. 2, $36.

* * *

Tables of Constants and Numerical Data Ready

The publication of the Annual Tables of Constants and Numerical Data, Chemical, Physical and Technological, which was interrupted during the war, has now been resumed by an international commission. Subscriptions to the years 1913 to 1916 inclusive, will be received up to June 30, 1921 at the following rates: Part I only $12.50; parts I and II $25. The only guarantee of delivery is promptness in subscribing. Application for these volumes may be made to Prof. E. W. Washburn, University of Illinois, Urbana, Ill.

GETTING *the* MOST OUT *of* BLACKSMITHING TOOLS

Every Clay Plant Should Have a Forge and Proper Usage of the Tools and Anvil Often Saves Time

By G. H. Radebaugh

Asst. Manager Shop Laboratories Dept. of Mechanical Engineering, University of Illinois

PRACTICALLY every clay plant has a forge of some sort which is found indispensable in doing small repair work around the plant. Not every plant has an experienced blacksmith, however, who is skilled in the use of the forge tools. Knowing the use of the more common forging tools is necessary when doing forging work. Herein are described the tools found around the experienced "smith's" forge, with hints regarding their appropriate use.

The working divisions of the anvil.—In Fig. 1 the working divisions of the anvil are shown. The anvil outline is named, this being done so that working positions of forging operations can be explained.

The best anvils are made from wrought iron or soft steel body and a tool steel face. This face is about ¾ inch thick. The horn or the table is not faced with the tool steel face, but they are "dead" and do not wear nearly so well as the former type. The size of the anvil is rated by the weight and is marked on the waist of the anvil in three numbers—the first shows the weight in hundred-weight; the second number in additional quarter hundred-weight, and the last in the odd pounds. The usual weight of an anvil for ordinary use is between 100 and 150 pounds. The pritchel and hardie holes are used to hold tools in and are also used by the smith for making bends.

MOUNT ANVIL ON WOOD BLOCK

Mounting the anvil, Fig. 2.—Any solid wooden block is secured, preferably of oak, hedge, or ash. It should be cut square on each end and should be about 20 inches long. The face of the anvil should come to a height so that with a man standing erect the knuckles of a closed hand will touch the face. It should be set five feet from the center of the forge and directly in front of the fire. The floor should be well leveled off before placing the block in position. A piece of ¼" by 1¼" soft steel is secured and bent around the waist of the anvil, as shown in the view. After this steel has been shaped to the outline of the anvil a ¼ inch hole is drilled in each end.

To clamp the anvil to the block, place the anvil in the center of the block and nail straps down with spikes. This is one of the most simple methods for clamping an anvil and is one of the best. A wooden block is the best mounting for an anvil, as it gives the necessary cushion for the solid mass of steel. It helps liven up the tool and makes it much easier to work on. The anvil should be placed so that the horn is left of the operator.

Forge shop cutting tools.—Three cutting tools are common about the forge and anvil. The hot chisel (Fig. 3) is used for cutting hot metal. As shown in the view the tool is held by the smith and the helper strikes the tool with the sledge. When cutting hot metal the chisel should be dipped in water after receiving several blows from the sledge. This is done to prevent the instrument from heating to such a high degree that all the temper will be drawn and the chisel becomes so soft that the edge will bend over. Under ordinary treatment the hot chisel does not hold up its temper. This is the reason that the hot chisel should never be used on cold work.

COLD CHISEL USED SAME WAY AS HOT CHISEL

The cold chisel (Fig. 4) is used in the same manner as the hot chisel; the cutting end is of a thicker section. It is designed so that heavy blows from the sledge can be delivered and the cutting edge will retain its shape. Compare the view of the two chisels. Notice how much shorter and thicker the cold chisel is at the cutting edge than the hot chisel.

In using this tool when cutting heavy sections the cut-

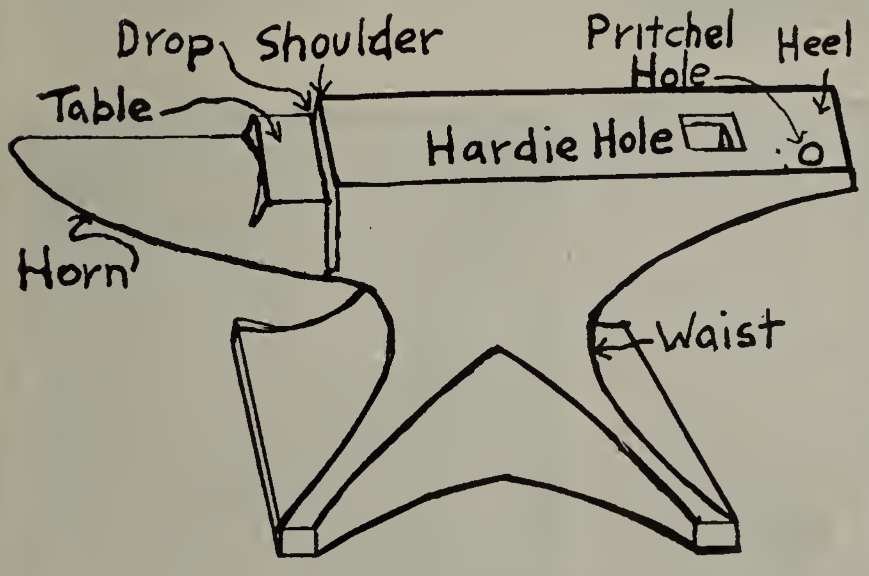

Figure 1.

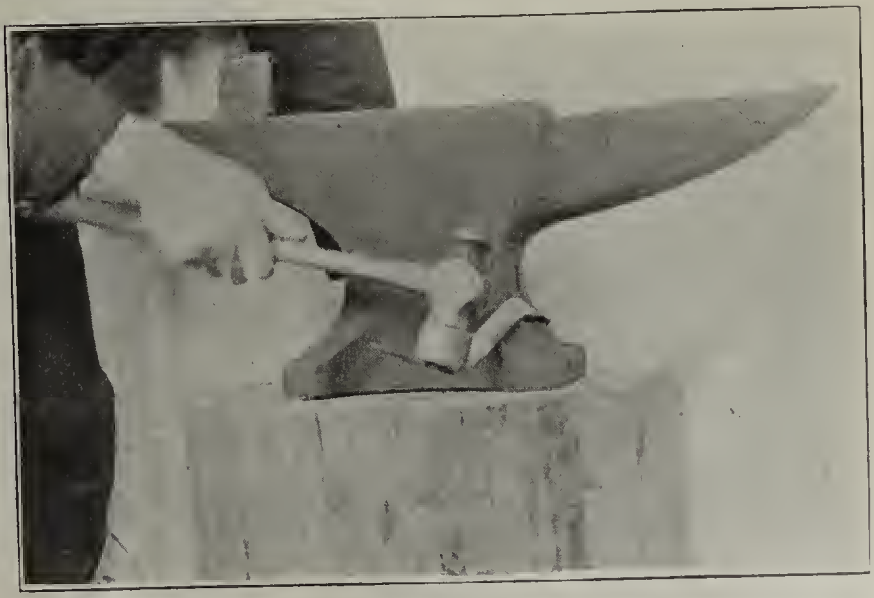

Figure 2.

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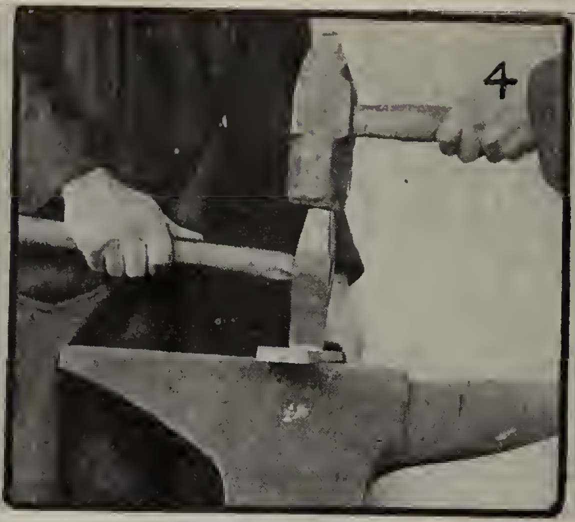
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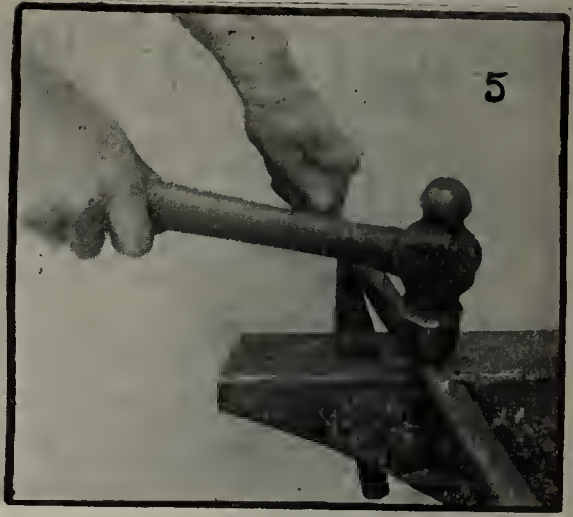
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ting edge should be dipped in oil. This assists in keeping the edge keen.

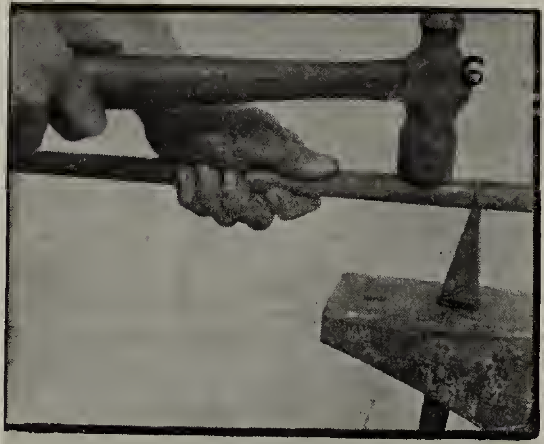
The hardie (Figs. 5 and 6) is used in the anvil by inserting the stem in the square hardie hole. It should fit the hole loosely enough so that it will not stick or wedge fast.

It is used for light cutting and trimming on hot or cold work. The hardie for hot work is drawn out to a thin edge, while the one used for cold work is much thicker. This design is patterned somewhat from the hot and cold chisels.

In Fig. 5 is shown how the piece of stock to be cut is placed on the hardie. It is then struck with the hammer. When cutting stock a deep cut should be made around the material. It is then placed on the edge of the anvil, as shown in Fig. 6, and a few down blows with the hammer are delivered. This will break the stock. It is understood that the stock is worked cold in this operation.

HARDIE NOT GOOD FOR LARGE WORK

Because the hardie is a one-man tool, it has the advantage over the hot and cold chisels in this respect, but it has a disadvantage in that it is not useful for large work. These three cutting tools are forged from .70-.80 carbon steel. The temper should be drawn to a light straw color. When the cutting edges become worn and blunted they can be ground or redressed and tempered. The spoke of an old buggy wheel makes excellent handles for all wood-handled forging tools.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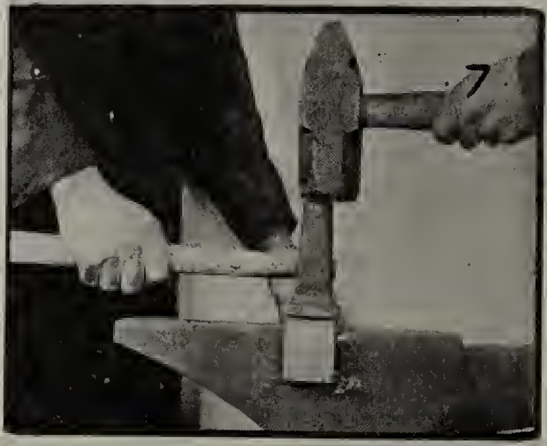
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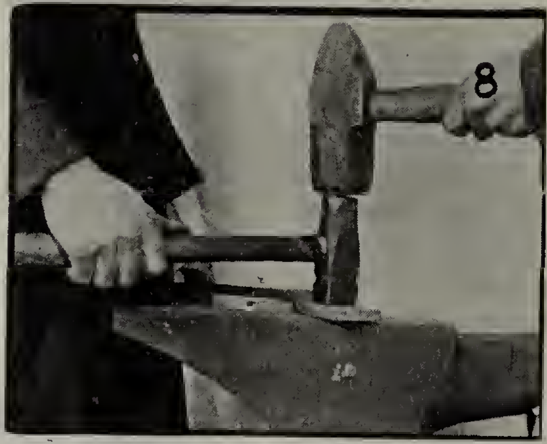
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Anvil tools for shaping metal.—In forging work various tools are found a necessity by the man who wishes to do a finished job of forging. The flatter and set hammer, as shown in Figs. 1 and 2, are used for practically the same purpose—smoothing and flattening work. By using these tools when the forging is a dull red and dipping the tool in water before it is applied to the work, all the rough scale can be removed from the surface, thus leaving a smooth, finished appearance.

MAKING RIGHT ANGLE BEND

A right angle bend is made as shown in Fig. 7. It is good practice to use the flatter instead of a hand hammer. A more even bend can be made and the surface of the stock will not be made uneven by hammer marks. Flatters for general work have a face from two to three inches square. The edges of the face are slightly rounded, so that the tool will not leave marks on the work.

The set hammer is shown in Fig. 8 making an offset on a wagon iron. When an offset is desired, the stock thickness of the offset is secured and placed on the anvil, as shown. The piece to be offset is then forged to shape. The set hammer is also found to be useful when squaring up right angle bends. They are made in sizes with a face from 1 to 1½ inches square.

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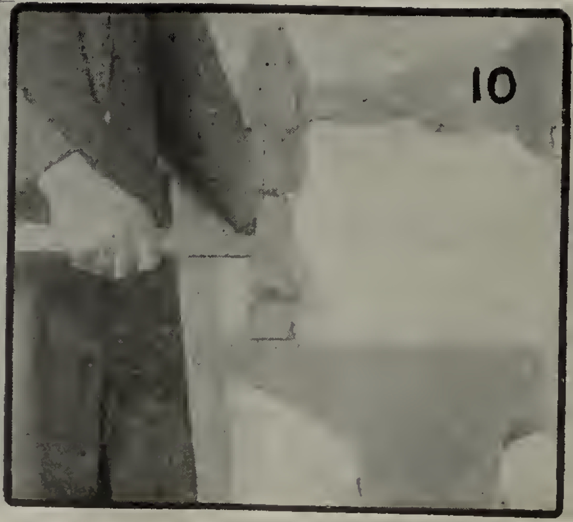
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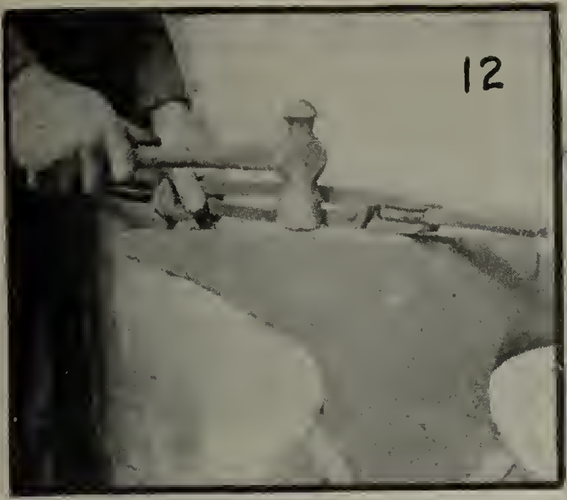
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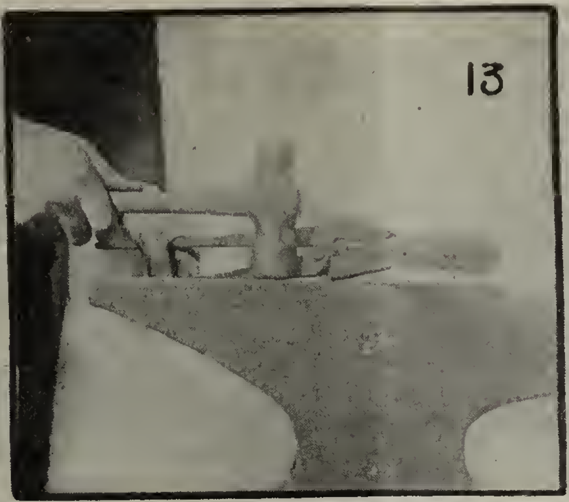
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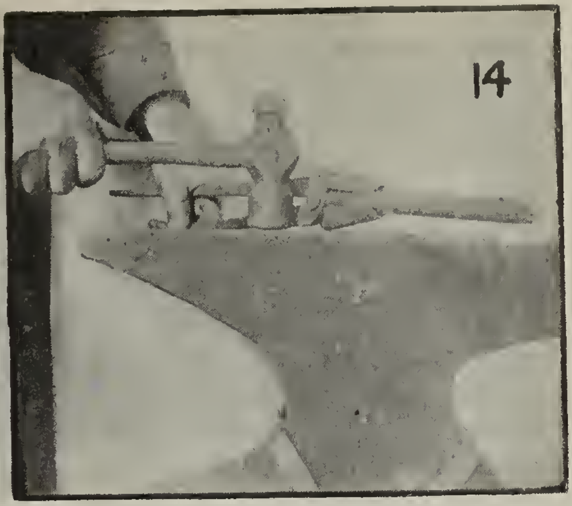
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USE OF FULLERS AND SWAGES

The top and bottom fullers and top and bottom swages, Figs. 9 and 10, are made in pairs. The bottom parts of these tools are designed to fit in the hardie hole and the tops are provided with handles. As shown in view, the forging blow is delivered by the sledge, the tools being held in a stationary position. Fullers and swages are both sized by the curved edges. A fuller with a curved edge of ½ inch radius would be called a 1-inch fuller, as the curved edge would be the same shape as a 1-inch bar.

The fuller is made in several sizes. The top and bottom fuller is used for forming depressions or shoulders on opposite sides of materials, as shown in Fig. 9. They will also be found useful when drawing out metal between shoulders or projections. The top fuller is sometimes used singly in making scarfs for welds, forming grooves, smoothing fillets, and forming shoulders on only one side of the forging.

The swage (Fig. 10) is used for rounding up work or forging round shapes to a smaller size. When forging stock to a circular section the swages are conveniently used for smoothing up after the stock has been drawn to about the correct size. After welding a rod the swages are used to smooth up the welded section.

REDRESS HEAD OF SWAGE AFTER MUSHROOMING

If an extra smooth job is desired, the top swage can be dipped in water occasionally. While in use, this is called water swaging.

These tools are not tempered and the best grades of them are made from dropped forging out of eighty to ninety point carbon steel. After these tools have been in severe service the head of the tool mushrooms, and there is danger of chips of steel flying when the tool receives a blow from the sledge. This can be avoided by redressing the head of the tool. To redress these tools remove the handles and work the steel at a cherry red heat. After the operation is complete, permit the head of the tool to cool slowly by placing it in ashes.

Punching hot metals.—There are two methods in use for punching holes in hot metals—the hand punch and a heavier punch, as shown in Fig. 11, which is provided with a handle and is used with the sledge. The hand punch is made from octagonal or round tool steel and is about eight inches long. The end is forged down taperingly and is made the same shape, but a little smaller than the size hole to be punched.

PUNCHING A CLEAN HOLE

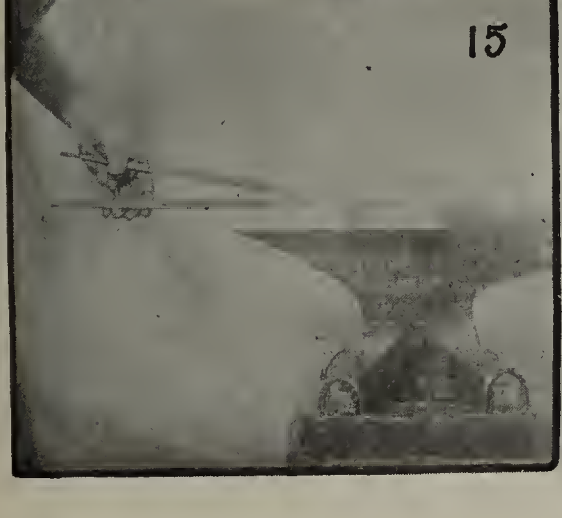
When punching, as shown in Fig. 11, the hole is started by first laying the work flat on the anvil and driving the punch about two-thirds of the way thru the work. It is then turned over and the punching continued from the other side. The hole can easily be located by the metal being bulged from the punching on the first side. When the punch is driven thru, the work is then held directly over the round hole, as illustrated in the view. If the punching is done in this way, the hole is left clean and to size.

When punching thick stock, after the punch is started, the tool is removed and the hole is filled with powdered coal. This reduces sticking. Tools of this kind are tempered and they never should be left in the heated work any length of time, as the end will become soft and upset when in the hole, which makes it nearly impossible to withdraw it. The size of these tools is determined by the size hole the punch will make.

LOOSENING TIGHTENED RIVETS ON TONGS

Making the tongs fit the job.—When an irregular shape, as shown in Fig. 12, is to be forged, it becomes necessary to take a pair of hollow bit tongs and heat the jaws to a bright red. The jaws of the tongs are then forced to fit the piece of stock which is to be held. Sometimes the rivet in the tongs tightens up in this operation. It may be relieved by first cooling the tongs and then delivering several blows with the hammer on the head of the rivet, which is held over the hardie hole on the anvil.

Forging square stock.—The best method for holding square stock is shown in Fig. 13. The tongs have been heated and hammered to fit the stock. In holding stock it is important that the tong jaw fit the entire length. This type of tong is used to hold round stock as well as the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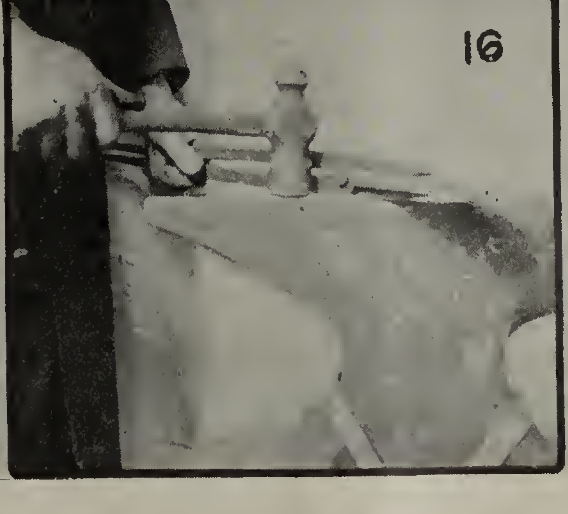
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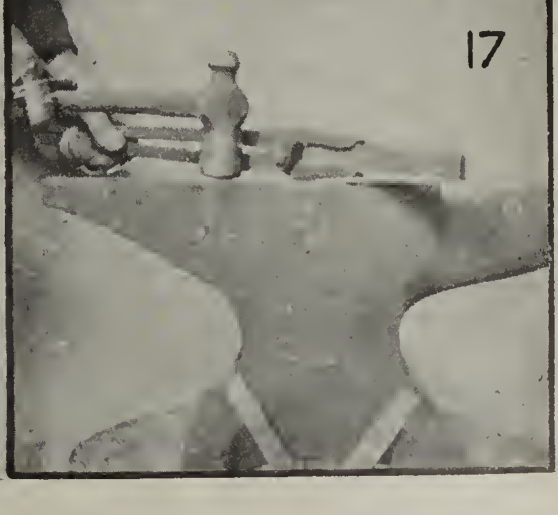
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square. In holding the larger sizes of stock a link can be slipped over the handles, which will relieve the workman from gripping the tongs tightly and will allow him considerable freedom in the handling of the work.

USE PROPER TONGS FOR WELDING BOLTS

The hollow bit tong.—When welding a nut on the end of a rod to make a bolt, the stock is held in the hollow bit tong, Fig. 14. The tong jaws should fit down on the stock snugly to insure easy handling of the piece while being forged. To make a special bolt, first cut the stock to length, then heat and round up end of stock, fit blank nut, then weld together. After this operation is completed, cut the thread and the bolt is completed. The proper tongs for a welding job of this kind makes the welding operation much easier and insures a better weld.

Welding a chain link.—The link tong, as shown in Fig. 15, is an essential when welding chain links. These tongs are made up so that the tong jaws can be heated and fitted to the size link that is to be welded. This permits holding the link more securely. When heating the link to a welding heat, hold it in the fire with a small rod until the welding heat is reached. Use the link tongs to remove piece from the fire to make the weld. It is only necessary to do this when using the smaller tongs. If they are used during the entire heating operation they heat up to such a high degree that they will not hold the link.

ADJUST TONGS TO FIT HANDS

Flat jawed tongs.—In bending a short piece of steel to make a wagon bed brace, the stock is held while being heated and forged with the flat jawed tongs (Fig. 16). These tongs are made in various sizes to hold different thicknesses of stock. In using tongs the handles should only be far enough apart to permit the hand to grip the handles without unnecessary reach. When the tong jaws are too close together for the stock to be held the handles separate, rendering it impossible to hold the two handles with one hand. This can be adjusted by placing the tong handles on the horn of the anvil, as close to the rivet as it is permissible, and bending handles to the center until the proper distance is secured.

Box tongs.—To hold a short piece of stock securely when forging is found to be a decided advantage. The box tongs (Fig. 17) is found useful in many repair jobs, as its design permits the holding of flat stock so that it will not slip when being forged.

New Jersey Clay Workers to Meet

The New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society will hold its annual mid-year meeting at Trenton, N. J., on June 17. Secretary George H. Brown, director, Department of Ceramics, Rutgers College, New Brunswick, is arranging an interesting program for the gathering, and the usual fine attendance is anticipated. The meeting will carry more than ordinary interest, owing to the necessity of omitting the annual meeting last December. Both morning and afternoon sessions are being arranged.

SAND-LIME BRICK OUTPUT INCREASES 49%

THE PRODUCTION OF SAND-LIME BRICK in 1919, after the large decrease in 1918, rallied and increased considerably in quantity and nearly doubled in value, according to a report of the U. S. Geological Survey. The increase in quantity was 48,548,000 brick, or more than forty-nine per cent. The value increased $821,234, or ninety-three per cent. The relatively larger increase in value is due, of course, to increased cost of production and increased demand. Increase in building operations, which were light during the early months of the year, but heavier in the summer and fall, is the cause assigned for this gain. The production in 1919 was less than that of 1917 by 40,599,000 brick and was less than the maximum production of 227,344,000 brick, which occurred in 1916, by 80,397,000 brick. The value of the sand-lime brick marketed reached its maximum in 1919 and was greater by $284,833 than that of 1917 and greater by $231,090 than in 1916, the year of maximum value prior to 1919.

SIXTEEN STATES PRODUCING IN 1919

The number of operators (35) reporting marketed product in 1919 was the smallest since 1903. The average value of sales per active operator in 1919 was $48,719, compared with $21,046 in 1918, $30,220 in 1917, and $27,813 in 1916. The average output per active operator was 4,198,000 brick in 1919, 2,343,000 in 1918, 3,990,000 in 1917, and 4,290,000 in 1916.

Sixteen states reported the production of sand-lime brick in 1919, a decrease of two—California and Washington. The eleven states that increased in quantity and value of output were Florida, Georgia, Idaho, Indiana, Michigan, Minnesota, New York, Ohio, South Dakota, Texas and Wisconsin. The output of Massachusetts also increased in value, but decreased in quantity. In 1919, as for many years, Michigan was the leading state in marketing sand-lime brick and reported twenty-nine per cent. of the quantity and thirty per cent. of the value for the year. This was an increase of eighty-six per cent. in quantity and of 155 per cent. in value, compared with 1918. Minnesota ranked second in both quantity and value, reporting sixteen per cent. of the quantity and fourteen per cent. of the value. Wisconsin was third, rising from eighth in quantity and sixth in value in 1918. Florida was fourth in quantity and fifth in value, and Indiana was fifth in quantity and sixth in value. The first five states, rated by production, reported 73 per cent. of the quantity and 69 per cent. of the value.

About ninety-nine per cent. of the output, in both quantity and value, was marketed as common brick, in which there was an increase of fifty per cent. in quantity and ninety-four per cent. in value, compared with 1918. The output of face brick was 1,670,000 brick, valued at $22,197, an increase of six per cent. in quantity and of $4,247, or twenty-four per cent., in value.

The average price per thousand for common brick in 1919 was $11.58, compared with $8.94 in 1918 and $7.54 in 1917. For face brick the average price was $13.29, compared with $11.35 in 1918 and $9.36 in 1917.

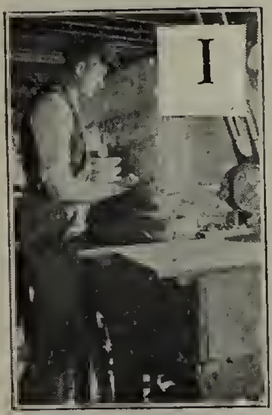
Half-Million Aliens Enter U. S. in 1920

Contrary to the general belief that America was being flooded with immigrants in 1920, figures show that the net gain in immigrants last year was 446,481. Most of these arrived in the United States in the latter half of the year. The total gain in the first half was 145,015, the remaining 301,826 all came in after June, 1920. The Senate is now considering a measure, known as the Johnson Immigration Bill, which if passed, will limit incoming aliens to 355,000 a year.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

BALL CLAY DEPOSITS IN KENTUCKY



IN ALL POTTERY plants, regardless whether dinner ware or sanitary ware or other chinaware products are being manufactured, there exists a continued demand for sagger and ball clays. Tho ball clays may sometimes be used for the manufacture of saggers, yet a sagger clay is usually a distinctive type having peculiar qualities which adapt it to the manufacture of saggers. These two types of clays are mined in many states in the country but it is generally conceded that Kentucky ranks foremost in their production.

A vast deposit of clay is situated in the vicinity of Hickory, Ky., which it is estimated will require from seventy-five to a hundred years to be exhausted. Of this piece of clay acreage the Hickory Clay & Talc Co., owns a section where the deposit reaches a depth of forty feet. Four distinctly different stratas of clay are discernible in the pit

EMPLOY TWENTY MEN AT MINES

The deposit is being worked more or less extensively and from eighteen to twenty men are employed at the mines. The clay is hauled to the railroads by truck and the shipments vary from one to twelve cars per day, the road conditions and car supply greatly affecting the shipments of clay. The distance from the mines to the loading station is about two miles, and in wet weather, at times transportation is a tedious problem.

The Hickory mines ship both ball and sagger clays and altho the mines have been in operation for the last two years no perceptible inroads have been made into the company's holdings. The entire product of the Hickory mines is distributed thru the Potters Supply Co., of East Liverpool, Ohio. DeWitt D. Irwin is managing the sales department for this concern. The material is always shipped in the raw state, and contrary to the custom in other southern states producing china clays, the Hickory clay is now washed.

TRUCKS TRANSPORT CLAY FROM MINES TO CARS

The raw material is shipped to practically every section of the East, Trenton, N. J. being a considerable user of the Kentucky clays. These ball and sagger clays are also sent into Canada in large quantities.

Steel side dump cars are used in the mines at Hickory

Bottom Left—H. C. Sparks, Jr. and H. C. Sparks, Sr. of the American Clay & Mining Co., Paris, Tenn.

Bottom Right—Tim Ward of the W. S. George Pottery Co., Cannonsburg, Pa., in the Ball Clay Pit of the Hickory (Ky.) Clay & Talc. Co.

Insert—Reading from Left to Right, R. N. Scott, Secretary-Treasurer, S. T. Howard, President, Hickory Clay Talc Co.; De Witt D. Irwin, Sales Manager. Hickory Clay & Talc Co., at East Liverpool, Ohio; Tim Ward, W. S. George Pottery Co.

and the loaded cars are pulled by cable to a tipple. From here the heavy trucks are backed into position and quickly loaded, ready for the journey to the shipping station. For a long time ball and sagger clays were shipped only in box cars but during the time of the car shortage open top cars were pressed into service whenever available.

S. T. Howard is president of the Hickory Clay & Talc Co. and R. N. Scott, secretary-treasurer.

Another clay shipping point in the South is Paris, Tenn., and one of the largest concerns doing business there is the American Clay & Mining Co., of which H. C. Sparks, Sr., H. C. Sparks, Jr., both shown on the picture are president and general manager respectively.

Tho the Hickory Clay & Talc Co. Ships a Considerable Amount of Ball and Sagger Clay Hand Labor Is Still Being Used in the Winning Operation.

* * *

Border Patterns in Great Demand

A division of opinion prevails concerning the operating situation in the generalware branch of the domestic pottery industry. Here and there a plant is to be found that is all but turning out normal capacity, and then one can find potteries which are operating on a basis of not more than fifty per cent.

On border patterns, most all potteries have about all the business they can take care of for months to come, and the character of ware that "takes" borders must be flawless. Therefore, rather large stocks are accumulating here and there for the second and third selections. For the latter lines of merchandise there is not the demand there was last year, or even last fall.

It might be well to take into consideration here that some of the jobbing trade have not bought when they needed merchandise, from the factories, but these few jobbers and distributors went to a fellow jobber and if the latter had the merchandise wanted, it would be shipped, and the shipper would charge the jobbing house who bought.

This state of affairs has helped to reduce the stocks of one jobber, and in the end both houses would be "out" of particular lines, and then the manufacturer would receive two orders instead of one, and at the old market. There has been no reduction in selling lists, the market of January last, which is the buying season is still being maintained, and is as firm as ever.

Department store buyers are not following the tactics of some of the jobbers. In fact the former have been exceedingly active. A department store in Pittsburgh, Pa., early in May did the biggest business in its china department in one week ever recorded, and then sent its own trucks into the East Liverpool, Ohio, market to bring home additional dinnerware.

Open stock dinnerware patterns are in active request. Orders for matchings are in almost daily receipt by the manufacturers. These open stock patterns are most all border patterns, and in many instances the department store buyer is duplicating his initial requirements in addition to sending in orders for matchings.

It must be admitted in all truthfulness, however, that the generalware potteries as a whole are not working full time. None, however, is idle. Vitreous china dinnerware and hotel potteries are operating almost 100 per cent. Demand for these lines is exceedingly active, indeed more so than is noted on the semi-porcelain product.

The English potteries being either idle entirely, or operating on very slow schedules is holding back imports from the Staffordshire district, and none can tell when active shipping will be resumed. The American manufacturer of china, therefore, is being called upon to supply customers who heretofore have been featuring imported merchandise.

An improvement in the sanitary pottery business is reported in a general way. Additions have been made to kiln crews and also in the clay shops. Increased activity in the building trades is therefore reflected in the demand for sanitary pottery products. The art potteries in the Zanesville, Ohio, territory are also being favored with considerable new business.

* * *

German Shipments Increasing 50 Per Cent

Germany is shipping more ceramic merchandise into the United States now than at any time since that country became involved in the European war. England is also increasing its exports to the United States, while Japan, for the first nine months of the current fiscal year, has shipped nearly one-third of the ceramics into the United States that have been received from all other sources combined. In March, 1921, however, Japan did not ship as much ware to the United States as it did in March, 1920, on decorated lines, while England almost doubled its business in March, 1921, when compared with its exports for March, 1920.

Side Dump Cars Load the Clay from the Track Directly into the Truck Obviating the Necessity of Re-Handling.

In the first nine months of 1920, Germany sold the United States wares to the value of $574,916, and for the same term in 1921 its sales soared to $886,917, an increase of $312,001.

For the first nine months of the current fiscal year, Japan has sold the United States ceramic ware, both decorated, china and ornamented merchandise, to the valuation of $3,354,443, while for the same term in 1920 its sales totaled

$1,989,684. This is an increase in nine months of $1,364,759, or sufficient business to keep a 20-kiln American pottery in active operation for an entire year or more.

France is not going forward very rapidly in exporting its ceramic wares to the United States, as in nine months in 1920 it exported to American distributors merchandise to the value of $458,920, and for the first nine months in the fiscal year of 1921 its sales had advanced to only $529,836, an increase of only $70,916. In March, 1920, France sold the United States ware valued at $26,107, and for the same month this year its business increased to $42,128.

It is currently reported that importers of Japanese or Nippon chinas have placed all their orders for current year deliveries, and that fall and holiday goods will be delivered in the United States within the next few months.

* * *

Potters Not to Ask New Arrangements of Labor

The Labor Committee of the United States Potters Association, following a general meeting of the Association in the William Penn Hotel, Pittsburgh, Pa., May 19, has asked a conference with the Executive Committee of the National Brotherhood of Operative Potters. In a general way, considerable importance is being attached to this request.

When it is taken into consideration that the annual convention of the Brotherhood will be held in Atlantic City early in July, and at that time propositions will be discussed which will be referred to the Executive Committee to adjust in conference with the Labor Committee of the manufacturers it does seem that the manufacturers are discounting the future.

While no official statement has been issued by Secretary Charles F. Goodwin of the United States Potters Association relative to the action taken by the Labor Committee at their executive session in Cleveland, Ohio, May 12, and which was later discussed in a general way during a closed meeting of the association at Pittsburgh, it has been intimated that the manufacturers will ask no new agreement with the Brotherhood at their forthcoming conference which in any way would work a hardship on the part of the shop workers.

The Executive Committee of the Brotherhood will probably meet at Trenton, N. J., at an early date to formulate a reply to the request of the Labor Committee for a conference.

* * *

"More Than Keen Competition"

An importer of chinaware, located on Chestnut Street, Philadelphia, Pa., has been selling china cream pitchers, made in Czecho-Slovakia and upon which a fifty-five per cent. duty was paid, at $2.75 a dozen, wholesale. He received 300 dozen such pitchers around the first of the year, and these have been sold so quickly, that another lot of 420 dozen was ordered, and have just been received. The American-made equivalent sells at $3.50 a dozen, wholesale, so when domestic china creamers move slowly, as has been the case recently, it is not to be wondered at when this character of competition looms in sight.

* * *

May Settle Strike at Mt. Clemens

Possibility exists that the strike of the pottery workers at the plant of the Mt. Clemens (Mich.) Pottery Co., may be settled ere long. This plant is under the control of Kresge Store Syndicate, but the plant management is under the care of Charles E. Doll, who a number of years ago was associated with the official family of the W. S. George Pottery Co., at East Palestine, Ohio.

Mt. Clemens pottery workers telephoned acting President John T. Wood, of the National Brotherhood of Operative Potters at East Liverpool, to come to Mt. Clemens for a conference and he did so.

The kilnmen at this plant were working on a tunnel kiln. They were paid a day wage, which according to glost or bisque ware would average the workers from $7 to $10 per diem. The firm contended, however, that the proper service was not being rendered, and then a difference of opinion followed between the kilnmen and the firm. A few days later, the plant was forced into idleness, and has since remained inactive.

* * *

J. Richard Owens Passes Away

J. Richard Owens, secretary and treasurer of the New York Terra Cotta Co., Long Island City, N. Y., died at his residence in Brooklyn on May 7.

* * *

Back to Work After Florida Trip

Monroe Patterson, president of the Wellsville (Ohio) China Co., has returned to his desk after spending a season in Florida, as is his annual custom.

* * *

Stoneware Company Resumes Work

The Sherwood Bros. Pottery Co., of New Brighton, Pa., has resumed operations after being idle for some weeks. The company is a manufacturer of stoneware and stoneware specialties.

* * *

Tile Manufacture Progressing at Rapid Pace

F. S. Keating, manager of the Drake Marble & Tile Co., Minneapolis, Minn., says that the increase in the use of tile in the past decade has been little short of phenomenal.

"Ten years ago two companies supplied all the clay tile used in the Twin Cities and surrounding territory," said Mr. Keating, "while today eight or ten companies are active competitors. When the construction of homes and apartment houses experiences a real revival, we can expect the greatest demand for tile in history. No modern home is complete without at least a tiled bathroom. The clay tile made today is far finer in quality than ever before."

* * *

Trenton Potteries Earns $329,358 in 1920

According to a statement, the annual report of the Trenton (N. J.) Potteries Co. for the year ended December 31 shows that, after deducting reserves of $131,791 for Federal taxes, and so forth, $26,800 for depreciation and $40,283 for discounts and bad debts, net profits amounted to $329,358.

* * *

The North-South China Corporation, New York, has filed notice of dissolution under the state laws.

* * *

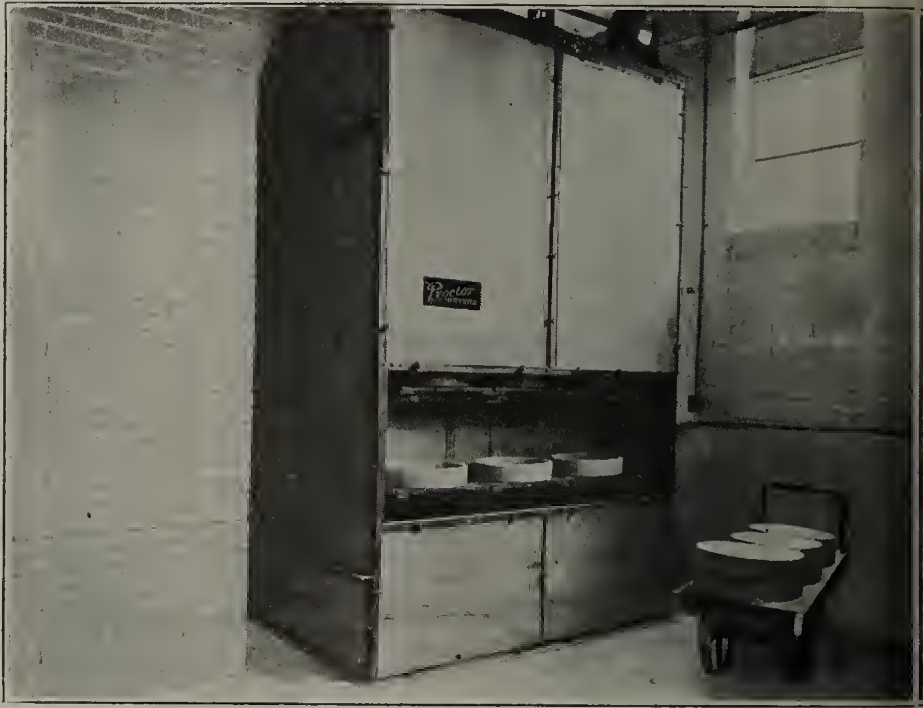
Planning Electrical Porcelain Plant

The Ravenswood (W. Va.), Porcelain Co., recently organized with a capital of $500,000, will soon commence the erection of a new plant, 120x160 ft., for the manufacture of electrical porcelain products. It is proposed to develop an initial capacity of about two kilns per week. Machinery for the new plant will be purchased at an early date. Beaty & Halloran, New Haven, W. Va., and Cincinnati, Ohio, are architects for the plant. C. E. Mason, is president, and C. W. Turnbull, general manager.

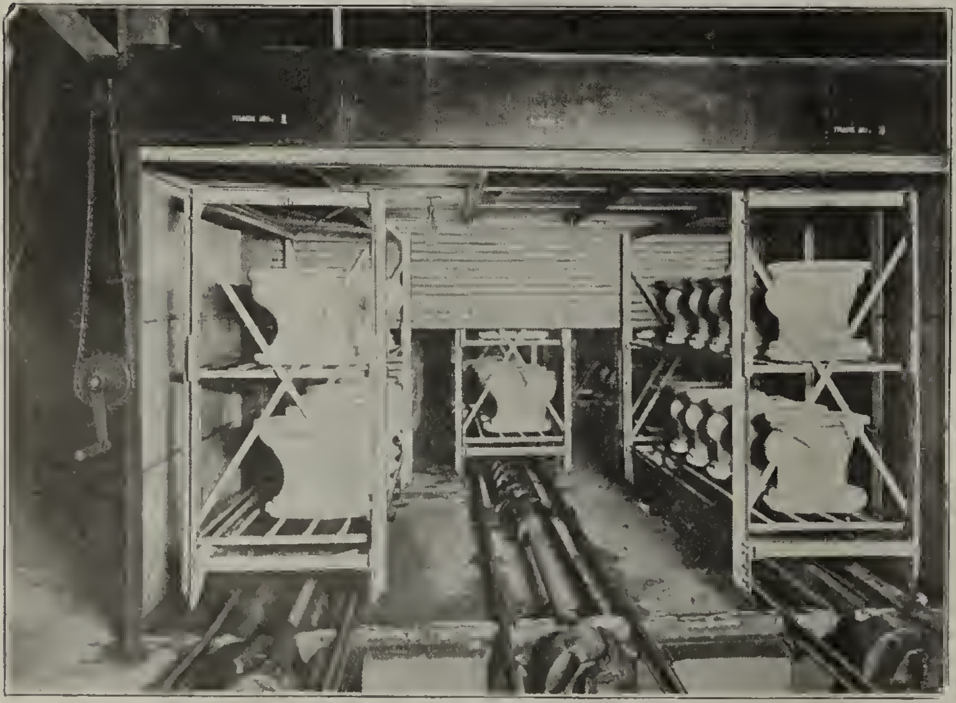
DRYING ELECTRIC INSULATORS
Exemplifying the great time-saving of "Proctor" Dryers, this machine is drying large moulded insulators in 30 hours that formerly required 30 days in a dry room.

DRYING PRESSED PORCELAIN WARE
This automatic "Proctor" Dryer is drying pressed porcelain insulators 4 to 8 hours that formerly required 1 to 10 days in a dry room.

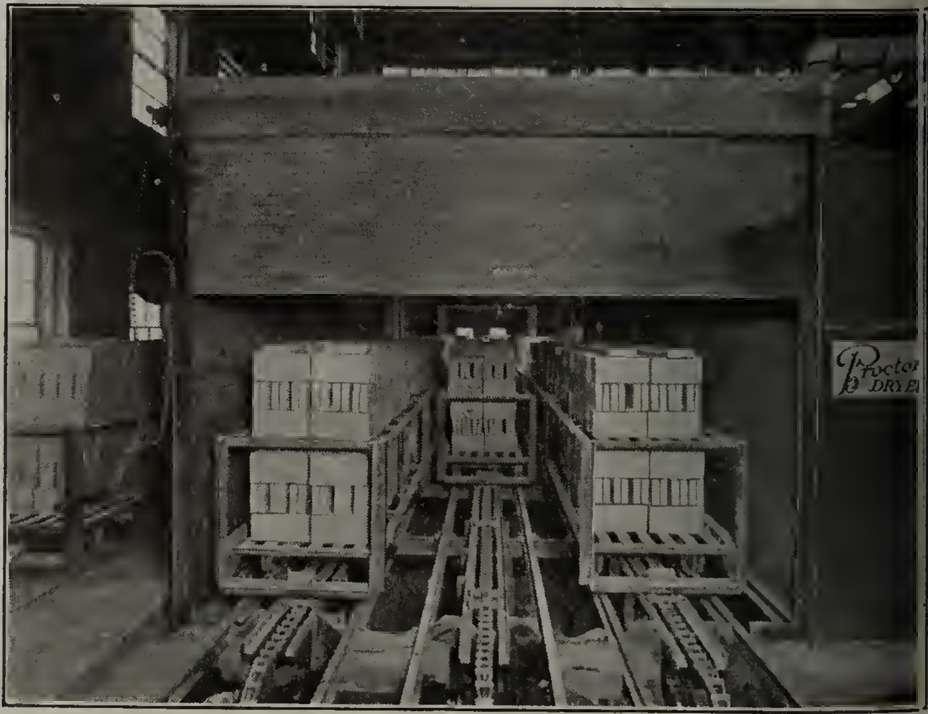
DRYING GENERAL WARE
These six "Proctor" Automatic Stove Rooms and jiggermen now occupy the same amount of space required by four jiggermen with old stove rooms —a 50 per cent increase in production, without additional space.



DRYING SAGGERS
Drying saggers in this automatic machine saves time, space and lab. The perfect uniformity of drying lengthens the life of the sagger and ma a material cut in the production requirement.



DRYING SANITARY WARE
The perfect uniformity of "Proctor" drying is demonstrated admirably in the case of intricate shapes of sanitary ware, varying widely in the thickness of the different parts.



DRYING HEAVY CLAY PRODUCTS
All heavy clay products are dried uniformly and quickly in this "Procto Dryer. Many well-known plants prove the superior satisfaction a economy of this machine.

Why are so many Ceramic Plants installing "Proctor" Dryers?

Ceramic manufacturers who have observed the rapidly increasing installations of "Proctor" Dryers, Automatic Stove Rooms and Mangles in all branches of their industry, are asking—

"Why?"

The answer holds direct promises for every ceramic manufacturer—for you. You will do well to obtain that answer, dealing specifically with the reasons "Proctor" machines are going into plants similar to your own.

Investigating your individual opportunities with "Proctor" Dryers is part of our service, always gladly and freely given.

There are, however, fundamental reasons in favor of "Proctor" Dryers, that command attention—unfailing advantages of these machines, regardless of the nature of your product:

"Proctor" Dryers *mechanicalize* drying—put mechanical action and certainty into an otherwise slow and haphazard process. They operate systematically, drying in progressive stages, on schedule.

"Proctor" Dryers are self-contained, compact, thoroughly dependable and efficient. They make great improvement in working conditions. They save time, space, labor and steam. They are vastly more economical than old dry rooms.

But what is perhaps the greatest benefit of "Proctor" Dryers, is their accurate control of quality results—perfectly uniform drying, a strong factor in keeping up quality of product and eliminating spoilage.

A word from you will bring our catalogue and the specific advantages we will guarantee "Proctor" Dryers to give in your plant.

PROCTOR & SCHWARTZ, Inc.
(formerly) The Philadelphia Textile Machinery Co.
PHILADELPHIA
Branch Offices: CHICAGO PITTSBURGH NEW YORK PROVIDENCE

"Proctor"
DRYERS

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

The Traction Engine Used in Clay Gathering on the Brazos Tile & Brick Co. Plant at San Antonio, Tex.

Speed and Power Are the Essential Features of This Equipment.

Use Traction Engine for Clay Gathering

Traction engines for use in the clay pit are somewhat new in the clay products industry. One of the clay plants using this equipment is located down in Texas. This plant was built along modern lines about six or seven years ago at Rosenberg, Texas, by the Brazos Tile & Brick Co. However, two years ago, J. R. Martin of San Antonio, Texas, leased the holdings for a year with the option of purchase, and last year bought the entire holdings of the Brazos Tile & Brick Co. Mr. Martin has been prominently identified with the clay indsutry since 1908 and is an enthusiast over the future possibilities of burned clay products.

The output of the plant is confined to both standard and interlocking tile for building purposes, and splendid drain tile is also manufactured. The factory is modern in every respect, having all of the best type of heavy tile and brick machinery, with ample motive power for further enlargement.

An abundance of clay is found on the property and is won by the process known as clay harvesting. The ground is ploughed up, disced, and then hauled to a trap with wheeled scrapers. At the trap it is dumped into a bin from where it enters a side dump steel car which is hauled up an inclined railway by means of a hoisting engine and then placed into storage sheds.

The wheeled scrapers, or clay gatherers, as they are commonly known, are drawn by a traction engine in place of a mule which in most cases is employed for that purpose. This method of drawing the scraper is a feature on this plant that is unlike most plants using this method of winning their clay.

The clay is prepared in the usual way and dried in a ten-tunnel dryer of direct fired radiated heat type. In addition to this dryer the plant is equipped with a two-story steam dryer used for drying special shapes, and so forth. Two hundred double deck steel cars are in use in the tunnel dryer.

There are four, thirty-six foot round down draft kilns on the plant and the ground space surrounding them are well paved with brick which makes the entire yard arrangement very convenient for loading cars. A depressed railroad spur runs thru the property. The fuel used at the plant is oil, both for the kilns and the boilers. However, quite a quantity of lignite is used under the dryers. The product is of a bright red color and being made of a very tough, strong body makes a good building material. The market for this plant is principally along the south coast. The factory is located on the junction point of two of the largest lines of railroad in the country, the Southern Pacific lines and the

Why Settle Measurements Gauge Maturity of Ware

Settle records or measurements simply gauge the degree of shrinkage in the clay, since this degree of shrinkage is in a measure proportional to the amount of fusion and cementing action that has taken place in the clay. Thus, in this way, the degree of settle indicates the amount of process that the ware has undergone and can indicate the maturity of the brick.

The glass forming reactions in the ware are never permitted to be complete, since we do not wish to soften the body too much. Enough of the firm skeleton must remain to hold up the structure of the ware. The fine grains begin to soften first and then the coarser, hence the size of the grain is an important factor in the vitrification of a clay. This is the reason why we sometimes add sand or grog to a clay because it assists the body in retaining its shape.

Gulf, Colorado and Santa Fe, which gives an outlet on a one line haul to almost every principal city of the state.

This concern is always seeking up-to-date methods of manufacture and labor saving equipment. The gravity roller system for unloading the products from the kilns to the yard or to the cars, are used constantly with great satisfaction.

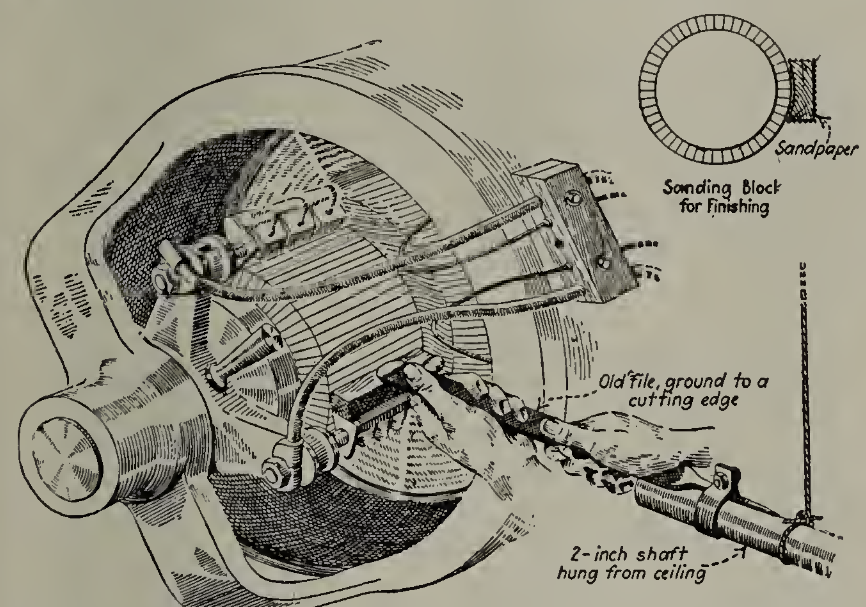
R. M. Martin, eldest son of J. R. Martin, is superintendent and in active charge of the plant.

⁂

Turning Down a Commutator in Operation

"The commutator of a small direct-current generator had been allowed to spark thru neglect until it was burned too deeply to be sandpapered out. The machine could not be spared for turning down for four days, and it began to look as if it would have to be treated every minute for that length of time with a stick of compound and a sheet of sandpaper, in order to pull thru to the end of the run," said R. Manly Orr in "Power" recently.

Not a traveling tool post nor a place on the machine to hold it, was available to turn down the commutator, the brush-holder yokes being all in use. A small rectangular hard wood block about 2x2 inches, and as long as the commutator was wide, was made, taking care to have it perfectly square. This was laid against the face of the commutator, resting on and fastened to a row of brush holders, the top of which were two inches below the center line of the falling side of the commutator. Outside the brushes on each side was a strip of commutator that was not worn or deformed, and this gave a true bearing surface for the block. Next, a flat file was taken and ground to form a cutting tool. The cutting edge was rounded to avoid digging circular grooves in the surface; this also gave a lot of cutting edge, making it possible to shift to a new sharp location as one part became dull by the very high speed at which the cutting had to be done. The operating speed was 1,150 r. p. m.


Sandpaper
Sanding Block for finishing
Old file, ground to a cutting edge
2-inch shaft hung from ceiling

Turning Down a Commutator Is Made Easy by This Method.

The hard wood block was used as a guide and tool rest and the cutting tool was shifted across the commutator face. By taking a piece of old two-inch shafting about 4 feet in length to the end of which was clamped the file with a two-inch hose-coupling clamp, the file was set so as to prevent rebounding. The shafting was suspended from the ceiling by a long rope. This seemed to have steadied the tool considerably. Sandpaper was then wrapped around the wooden block and a finish was given to the commutator. The whole job was completed in a short time and the machine carried full load all the time.

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Meet FALLING PRICES
By INCREASED EFFICIENCY
And LOWERED COST OF PRODUCTION
Results Guaranteed With
"CAHCO" COMPLETE OIL BURNING SYSTEMS
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Engineers—Constructors
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BURN ANY COAL
Never mind the quality; put it up to
CANTON Rocking and Dumping Grates
to take care of it. Thereby they will also take care of your pocketbook.
Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.
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IN CLAY BURNING
SAVE FUEL
Save Burning Time
Write for full information
THWING INSTRUMENT CO.
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ONE MAN DIGGER
for the CLAY and TILE PLANT PIT
Designed especially to handle material for the average brick or tile plant.
Dependable, efficient, economical—oil engine operated
LOW IN PRICE—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.
Write for complete data
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2619 Center Avenue :: Bay City, Michigan

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"Make Good Belts Give Better Service"

Once on, Crescents are on to stay. A Crescent joint will outlast the most durable belt. No part of belting is punched out or weakened. Maximum strength maintained. Belt runs same as endless on pulley side. No knocking or thumping. Noiseless. Joint hugs pulley. Full power transmission insured.

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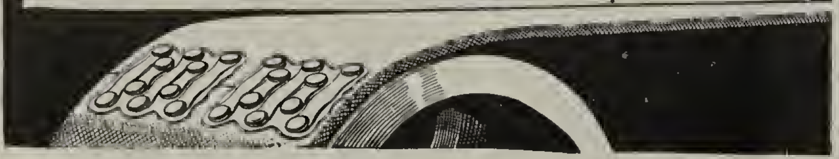

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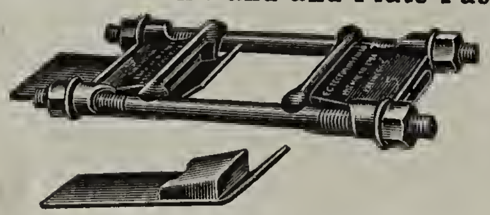
Malleable Iron Kiln Band and Plate Fasteners



The harder the strain the tighter they draw.
No rivets to shear. No holes to drill.
We can furnish complete iron equipment for your kiln—including bands cut to exact lengths, T-iron door frames, span rods, crown covers, ventilators, etc. Write for full information and prices.
E. C. TECKTONIUS MFG. CO.
1202 Racine treet RACINE, WISCONSIN

UNLOADING FOR 3 CENTS PER TON

Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.
The Columbus Conveyor Co., Columbus, O.

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CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Cannot Get Heat Into Center of Kiln

964—*Newfoundland. We are burning our up-draft kilns and cannot get the middle of the kilns hot enough. We do not know whether our grates are far enough thru the kilns and ask your advice on this question.*

This question appeared both in the March 22 and April 19 issues of *Brick and Clay Record.* Answers were supplied but the following letter has been received from Fred Gleckler, a brick manufacturer of Ohio, purposing to give further aid with regard to this difficulty. His letter states:

"The writer has had repeated trouble of the same nature and has been convinced without a doubt that kilns often draw air down thru the top to help feed the heads and in such cases, it is useless to try forcing the center by back firing with either coal or wood as it will do no good. The only solution that I ever found is to tighten the flats all over the top of the kiln, making them tighter so that the center of the arches are where you want them. Afterwards you may again loosen the flats on the slow spots on top of the kiln to give them a chance to catch up. The chief reason that brings about this trouble is loose setting. Brick should not be set looser than six on two, set in pairs.

"Grates of small surface should be clean and open while the arches are being heated. The center of the arches should begin to gain slowly from the time that heavy firing is started and should be white within twenty-four hours of the time that the heads are white."

* * *

Is Fire Clay Face Brick Weather Proof?

974. *Georgia—We would like to ask this question. It has always been our opinion that fire clay would not stand the weather, just how could you make face brick of fire clay that would stand the weather?*

A fire brick can be made to withstand the weather if it is burned to a proper degree of maturity. The whole trouble then lies in the burning.

It is necessary to reach a temperature at which there is sufficient fluxing action to cause the ware to form a firm and solid mass with low porosity and absorption. This can be done by simply raising the temperature in the kilns to a high enough degree.

If the fire clay is too refractory so that it requires a temperature unusually high to bring about the above condition in the ware, then the purpose is likely to be impracticable because of the enormous amount of fuel required and the strenuous use of the kiln.

On the other hand, many fire clays will begin to vitrify at a temperature low enough to make this purpose entirely practical. Especially if you added some red clay should it be possible to obtain a satisfactory brick at a reasonable cost.

The whole question of whether resistance is merely depen-

and ANSWERS

Best Authorities in Every Clay
working Branch Are Called Into
Consultation—Their Advice is
Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

dent upon the porosity and absorption that brick has. To make a test one needs to place a brick in water for forty-eight hours in a manner so that the brick is completely immerged except for one of the large surfaces which should be exposed to one-sixteenth of an inch above the surface of the water. The brick should be weighed before immersion and after being taken out of the water. The difference in the weight divided by the dry weight will give the percentage of absorption. If it is higher than eight per cent. the clay will cause difficulty in weathering. However, if a less porosity is obtained there should be no difficulty with the weathering.

⁂

The Crushing Strength of Common Brick

973. *Virginia—Have you the information available concerning the crushing strength of ordinary common brick. Also, the loads that the hard and salmon brick are capable of carrying separately, which will enable us to compare the strength of the salmon with the hard?*

We would like also to have you advise us the load that brick walls in an average type of two story dwelling house is called upon to carry.

The crushing strength of a brick, would, as you can readily understand, vary according to the degree of hardness to which it has been burned, and according to the quality of clay used in its manufacture.

In Kidder's Architects Hand Book, is reported the crushing strength for several types of brick. For Philadelphia brick it was approximately 6,000 pounds per square inch; for Cambridge brick it was approximately 12,000 pounds per square inch; for Boston brick it was approximately 11,000 pounds per square inch; for St. Louis brick it was approximately 6,500 pounds per square inch and for Washington, D. C. brick it was approximately 7,400 pounds per square inch.

Common brick tested at Watertown Arsenal in 1884 showed strength around 15,000 to 18,000 pounds per square inch on individual brick tested flat and one of these bricks developed the enormous strength of 22,000 pounds per square inch at failure.

The United States Bureau of Standards conducted tests which are reported in Technologic Paper No. 111, on large piers. They built these piers of brick from four districts—Pittsburgh district, New Orleans district, New York district, and Chicago district; and from each district they graded the brick as follows:

Grade One—Hard burned or best quality.
Grade Two—Medium burned.
Grade Three—Soft burned or poorest product marketed.

The individual brick tested as follows, laid flat:

Pittsburgh Brick
Grade One—11,909 lbs. per sq. in. or 862 tons per sq. ft.
Grade Two—7,880 lbs. per sq. in. or 567 tons per sq. ft.
Grade Three—1,659 lbs. per sq. in. or 119 tons per sq. ft.

New Orleans Brick
Grade One—7,340 lbs. per sq. in. or 527 tons per sq. ft.

Leschen Wire Rope Is Dependable

When you buy Leschen Wire Rope you are not experimenting, for its ability has been proven by its service record.

For use on cranes, cableways, derricks, excavators, steam shovels and other heavy duty equipment, we recommend HERCULES (Red-Strand) Wire Rope, because its unusual durability enables it to work with economy under such conditions.

(Established 1857)
A. Leschen & Sons Rope Co.
ST. LOUIS
New York, Chicago, Denver, San Francisco

THE TANK WITH A REPUTATION
Caldwell
Dependable Water Pressure

Caldwell Tubular Towers give you a positive, dependable water supply at a good pressure all year 'round.
They are strong and durable, and yet so simple you can easily erect one yourself. Approved engineering principles throughout and excellent workmanship, backed by thirty years' experience, make them a permanent, satisfactory investment.
Send for Catalogue

W. E. Caldwell Co.
INCORPORATED
2380 Brook St., Louisville, Ky.

ORIGINAL Boss SYSTEM
Boss Ten-Hour Dryer

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

J. C. Boss Engineering Co.
Elkhart, Indiana

B G
STANDARDIZED MATERIAL-HANDLING MACHINES
Barber-Greene-Co
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Makers of the original B-G Standardized Belt Conveyors. B-G Self-Feeding Bucket Loader.

PULSOMETER STEAM PUMP

Will keep your pit free from water. Pumps continuously without attention or adjusting. Handles any fluid up to 40% solid when agitated and is particularly suited to Clay Plant needs.

NEEDS NO LUBRICATION!
Ask us for proof of performance

PULSOMETER STEAM PUMP CO.
Executive Offices, 224 W. 42nd St., New York, N.Y.
Distributors in all principal cities

RICKETSON'S
YOU CAN'T FADE 'EM
MORTAR COLORS

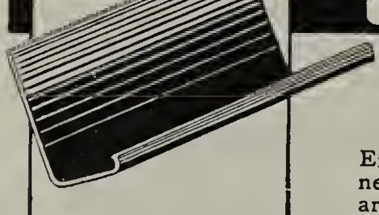
If they are colored with Ricketson Brand
Mortar Colors

Home builders demand a beautiful color with their brick. Ricketson's colors give brick charm, freshness and warmth in appearance.

40 years proves their permanency.

For Brick, Mortar, Cement, etc.

RICKETSON MINERAL PAINT WORKS
Milwaukee, Wisconsin



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SALEM
ELEVATOR
BUCKETS

A flat bottom elevator shelf. Elevates at low angles and without a boot. Readily discharges ore, coal, broken stone and mud.

Enjoying dominance in their field for nearly half a century, Salem Buckets are known universally for their utility and dependable service.

Price list on request

Mullin's Body Corporation
Stamping Dept. "A"
101 Mill Street Salem, Ohio
Successors to The W. J. Clark Co.

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

Grade Two—6,880 lbs. per sq. in. or 495 tons per sq. ft.
Grade Three—6,150 lbs. per sq. in. or 468 tons per sq. ft.

New York District Brick
Grade One—5,360 lbs. per sq. in. or 412 tons per sq. ft.
Grade Two—4,330 lbs. per sq. in. or 319 tons per sq. ft.
Grade Three—2,170 lbs. per sq. in. or 196 tons per sq. ft.

Chicago District Brick
Grade One—3,200 lbs. per sq. in. or 231 tons per sq. ft.
Grade Two—3,150 lbs. per sq. in. or 226 tons per sq. ft.
Grade Three—of Chicago brick was not tested as same were not available.

There is a dearth of opinion regarding the exact relation between the strength of individual brick and the strength of brick structures. Not only does the latter depend upon the compressive strength of the brick, but it also calls into play its transverse strength and there is a possibility also that the tensile strength of the brick may have a considerable influence upon it.

While much has been done by means of extensive and elaborate tests to develop exact formulas for the strength of piers or walls built of other materials, a great amount of work will have to be done before engineers and architects can take advantage of the enormous strength of brick work. At present brick piers and walls are made much too large for the loads they have to carry, and it is only thru the development of more exact formulas that brick structures can be designed economically and yet safely.

To do such work is one of the functions of a trade association, and by co-operation with the Bureau of Standards and their bodies the Common Brick Manufacturers Association hopes to place this much needed information at the service of the industry and of the engineering profession.

Answering the second part of your question. The average load at the first floor line of a two story house including dead and live loads averages from 1¼ to 1½ tons per running floor, assuming that the house is built with 8-inch walls.

The LETTER BOX

A Place Wherein Letters
That Have General Interest Are Published and
Commented Upon

Here's One Does Not Believe in Ideal Wall

The discussions in these columns regarding the brick hollow wall have evoked tremendous interest thruout the industry. Various ideas and suggestions regarding hollow wall construction have been presented by clay products manufacturers. The letter printed below was received from J. H. Dolan, superintendent of the Illmo (Mo.) Pressed Brick Co.

"Have been reading with a good deal of interest in the last numbers of *Brick and Clay Record* in regard to brick hollow wall construction, also the interesting letters suggesting changes in size of the common brick, making them larger; also the changing of the laying of the brick from the old style flat method to laying brick on edge, thereby destroying the beauty of common brick, and all grades of face brick.

"We challenge the argument that this wall is cheaper constructed than the wall laid flatways and showing the true beauty of the brick as they should be shown. In the first place, if brick are laid with the side to act as face, the labor required to lay those brick in the wall is twice what the labor on the other method is. Then take into consideration what you lose in the appearance of the building; you are getting a cheap job, as you say, and you consequently must and will have to sell cheap, for there never was a job that if it was done half way got its market value when it was sold.

"We doubt very much whether making the brick larger than standard size would help matters any; as far as hollow tile is concerned, we believe that we have a scheme that will require hollow tile to cut the cost considerably. In the first place, we have figured a nine-inch wall and a thirteen-inch wall for a bungalow; if proper mortar and cement was not used on the outside, there would be some dampness that would show.

"Now, we have experimented with three bungalows built with a nine-inch wall. We have left an inch and a half air space from foundation to top of wall, laying the last under the roof a header course, spacing about one inch apart and filling with mortar so that the air space is left open. In laying this wall we have used the steel corrugated tie, laying one foot apart on the wall and every five courses in height. There are no headers in any of these buildings, and absolutely no possible chance for dampness, and a nine-inch wall laid in this way will answer the same as a thirteen-inch wall laid the old way. We know that this wall can be laid any thickness by increasing the size of the steel tie. This not only saves the cost of building thirteen-inch walls, or using tile to back up with, and in our opinion makes a whole lot drier building than any hollow tile building that was ever built."

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Anton Stiel Celebrates Eightieth Birthday

Anton Stiel, pioneer brick manufacturer of Jefferson, Wis., and secretary and treasurer of the Jefferson Brick & Tile Co., recently celebrated his 80th birthday anniversary at his home in that city. Mr. Stiel is enjoying good health and continues to take an active part in the management of the company, notwithstanding his advanced years.

Brick Manufacturer Shot to Death

Edward E. Hatch, Riverton, N. J., a local brick manufacturer, was shot and killed at his boat house at Delair, on May 7. The shooting occurred during an argument with three boys, when Mr. Hatch accused them of attempting to rob his place.

Give Dinner in Honor of C. A. Bloomfield

Charles A. Bloomfield, a prominent figure in the clay industry at Metuchen, N. J., and in Middlesex County, was given a dinner by the Mt. Zion Lodge, F. and A. M. The dinner was in honor of Mr. Bloomfield's fiftieth year as a member of the Masonic order. He is a pastmaster.

W. T. Matthews Joins Trade Tour

W. T. Matthews, sales manager of the Claycraft Brick Co., of Columbus, was one of the manufacturers to leave on the Columbus Manufacturers and Jobbers' Association trade tour which was run to a number of nearby towns and cities the latter part of May. Mr. Matthews had arranged to go on to Detroit before returning. The plant of the Claycraft Brick Co., at Shawnee, Ohio, is in full operation and steps are being taken to put the Groveport plant in operation some time in June.

Geo. A. Deardorff Changes Position

Geo. A. Deardorff resigned as superintendent of the brick manufacturing department of the District of Columbia's

BRISTOL'S RECORDING PYROMETER

tells the workman at a glance just what the temperature conditions are now, what they have been, and in what direction they are leading. With this knowledge he can readily obtain close regulation—and even inexperienced workmen can do better work.

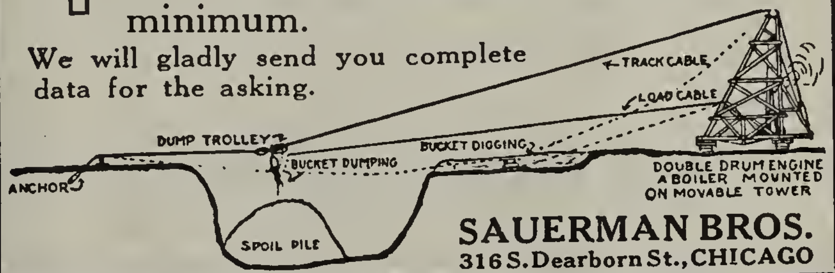
Get copy of Bulletin AE-291

THE BRISTOL COMPANY - Waterbury, Conn.

SAUERMAN
Dragline—Cableway—Excavator

Digs, Conveys and Dumps in one operation.
Cuts labor and digging costs to a minimum.

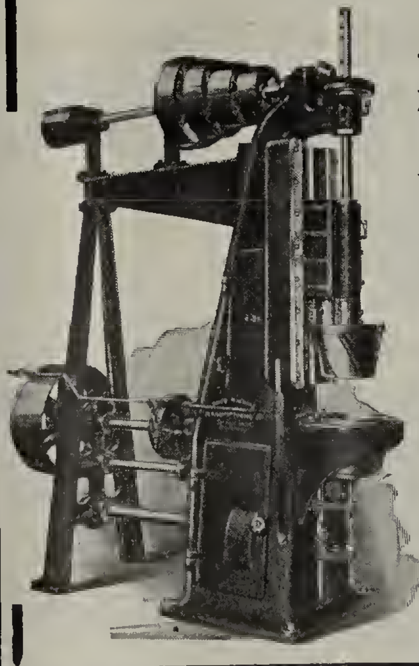
We will gladly send you complete data for the asking.



SAUERMAN BROS.
316 S. Dearborn St., CHICAGO

Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?



The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
409-11 Jefferson Avenue E.
DETROIT, MICHIGAN

The Invincible Barrow

This favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

Write for prices.

TORONTO FOUNDRY & MACHINE CO.,
Toronto, Ohio

PEABODY COAL COMPANY
FOUNDED 1883
OPERATING 36 MINES
WITH ANNUAL CAPACITY
OF
18,000,000 TONS

WE MINE AND SELL GOOD COAL

GENERAL OFFICES:
332 SO. MICHIGAN AVE., CHICAGO
BRANCHES:
ST. LOUIS
OMAHA
PEORIA
CINCINNATI
KANSAS CITY
MINNEAPOLIS
DEADWOOD, S. D.
SPOKANE, WASH.
SHERIDAN, WYO.

"PEABODY FOR SERVICE"

Workhouse, to take charge of the Richland Shale Products Co. plant at Columbia, S. C., in the capacity of general manager. The Richland Shale Products Co. plant at Columbia is a new plant and has just started to manufacture brick.

Birmingham Finds Florida Good Market

A number of the Birmingham, Ala., brick plants opened up in full force during the month of May.

During the past few weeks a number of large orders have been booked by Birmingham brick firms for large orders of brick. One of the largest contracts yet received is one from Orlando, Fla., which calls for 800,000 brick to be used in the construction of a $1,000,000 hotel at that place. These brick are to be shipped to the Florida city as rapidly as the work progresses on the building.

According to John W. Sibly of the Birmingham Clay Products Co., there is a great demand for brick in a number of Florida cities at this time, due to building activities in that state. He said that during the past year two countres in Florida had spent $2,000,000 each for the construction of hard roads and brick and cement. "Each of these counties reports a $2,000,000 increase in business done," he said, due to their paved roads.

"Florida is now making arrangements to use large quantities of Birmingham brick in road paving work," said Mr. Sibley after a trip over that state.

April Big Month in California

The Brick Manufacturers Association, Los Angeles, now numbering in its group six manufacturers of common brick—the Los Angeles Brick Co., Simons Brick Co., Standard Brick Co., K. of K. Brick Co., and the Western Brick Co., sold more brick during April of this year than in any month of 1920. Its heads are very enthusiastic over the outlook for brick in the construction of houses of one and two stories.

The officers of the Brick Manufacturers Association are L. S. Collins, president; R. G. Simons, vice-president.

May Lock Out San Francisco Building Trades

Suspension of building operations in San Francisco is considered to be threatening as a result of a controversy between the builders and building trades workers. The trouble hinges over a dispute as to the power of an arbitration board to which wage scales were submitted to reduce wages in several crafts. The builders are firm in the contention that the arbitration had full power to either raise or lower wages. The builders exchange has issued an ultimatum to the crafts involved that they will be locked out if they do not agree to the findings of the board which provide for only slight reductions in some trades. If operations are suspended for any length of time it is thought that the brick men will seriously feel the situation.

Big Plant Completing First Unit

The plant of the California Pottery Co., just east of Merced, Cal., is rapidly nearing completion of the first unit of four kilns with a crew of twenty-five men. Completion of this unit is expected by June 1. The next unit will be finished forty days after that according to schedule. In all four units are to be set up with sixteen kilns. They are circular down draft kilns calculated to last forty years. The first unit will be used to produce hollow building tile for which there is a considerable anticipatory market in Merced and the first month's output is expected to be absorbed locally. Enough orders on hollow tile have been booked to keep the plant busy for eight months.

Edward Mehan, son of P. E. Mehan, superintendent, has joined the Merced force and will have his headquarters there while traveling between that city and Red Bluff as a company salesman.

Plans are afoot for the resumption of trade by the California Pottery Co. with the Hawaiian islands which was suspended on acount of the war. H. J. Crowe who has been Fresno manager for the company will make the trip to the Islands.

A public meeting was recently held in Livingston at which Frank Costello, president of the company and Manager E. A. Forde told the people of that section facts about the pottery plants and its products, laying stress on the growing use of hollow tile in building operations.

A barbecue will be included in opening exercises when delegations from San Francisco and Fresno are expected to attend the commencement of actual production. The general public will be invited.

Wilmington Clay Products Family Adds One

Brick and other clay products will be manufactured by the Standard Clay Co., of Wilmington, Del., recently incorporated for $300,000. Organizers are Albert F. Price, Edwin T. Norris, Brazil, Ind., John H. Wright, Indianapolis, Ind.

Clay Industry Growing in Florida

The Kelsey City (Fla.) Brick & Supply Co., has been incorporated with capital stock of $500,000. Harry S. Kelsey, president; Fred A. Clarry, vice-president and secretary; James McDonald, treasurer.

Moves Office to New Location

The Silica Brick & Engineering Co., has moved from its old office at 175 W. Jackson Blvd, Chicago, Ill., to its suite in the Wrigley Building. The Wrigley Building is the city's newest and finest office building. It is of terra cotta.

Interstate, Going Up

The Interstate Clay Products Co., of Chicago, Ill., has just changed its headquarters. Because of expansion in the force and the necessity for more space in which to properly conduct the business and give the proper service to its constituency, the firm has moved its offices from the 5th floor of the building at 20 E. Jackson Blvd., Chicago, to the 13th floor of the same building.

Cut Wages Fifteen Per Cent.

Wages have been reduced fifteen per cent. at the Purington Paving Brick Co., E. Galesburg, Ill., according to a report. This cut was deemed necessary to keep the plant operating at full capacity, inasmuch as that is the only way in which brick can be manufactured economically. The company is endeavoring to keep as many men on the payroll as possible consistent with the feasibility in operating the business.

National Brick to Do Business in Indiana

Papers have been filed in Indianapolis with the secretary of state which will permit the National Brick Co., an Illinois corporation, to do business in Indiana. In the legal documents the company states that $250,000 of its capital stock is represented in Indiana. Martin Bultge, of Hammond, Ind., is named as the Indiana agent.

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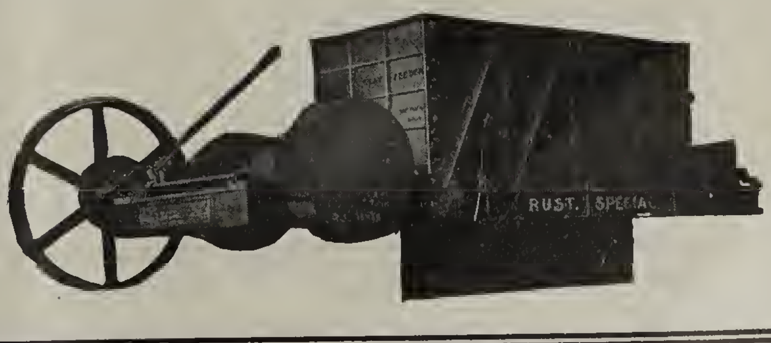

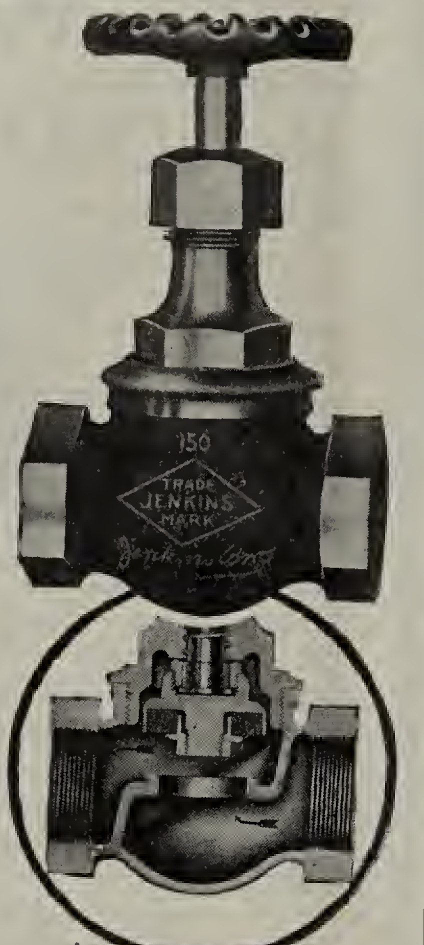

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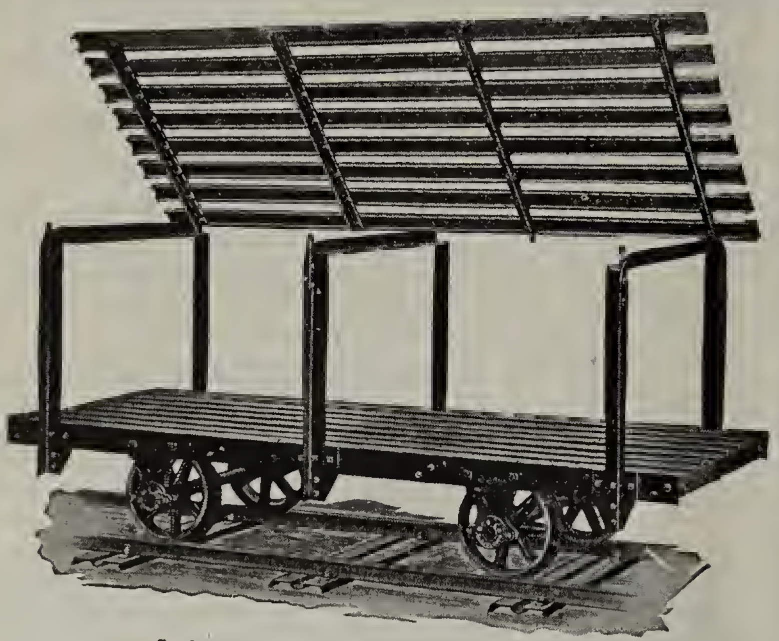

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New Clay Mining Company in Indiana

The Radford Stripping Co. has been organized at Brazil, Ind., for the purpose of mining clay. The company has a capital of $5,000 and the directors are Conrad Miller, Otto T Englehart and Fred Miller.

Building New Kilns to Handle Extra Work

Two large new kilns are being built by the Monroe (Ind.) Brick & Tile Co. to take care of the large volume of business which the company is now handling, it is stated. Orders exceed the plant capacity and a large force of men is working to catch up with orders on hand.

Coal Company Mining Clay and Shale

In addition to doing a general coal mining business, the Rockville (Ind.) Coal Mining Co. will mine clay and shale on its holdings, which include several hundred acres in Parke county. The company was just recently organized with a capital stock of $100,000, and the directors are Howard L. Hancock, William M. Scanks and Wilburn P. Harrison.

Laying Many Thousand Feet of Sewers

Bids are being received by the city clerk of Kendallville, Ind., for prices on 1,336 feet of 33-inch segment block sewer, 1,753 feet of 30-inch segment block sewer, 214 feet of 24-inch D. S. sewer pipe, 1,680 feet of 18-inch D. S. sewer pipe, 1,427 feet of 15-inch D. S. sewer pipe, 2,014 feet of 12-inch sewer pipe and 810 feet of 10-inch sewer pipe. The estimates of the city engineer place the cost at $42,012.58. Several of the Indianapolis salesmen have signified their intention of bidding on the project.

Thinks Conditions Will Improve

J. H. Zinn, Indianapolis representative of the William E. Dee Co., states that the strike of the building trades thruout the state is having some effect on the public construction work. His company is meeting decreases in prices and at the present time prices on common brick have been shaved down to around $12 f. o. b. factory. Mr. Zinn is optimistic in that he believes conditions will improve, but he says with public construction which is virtually all of brick, tied up, the situation for the immediate present is none too good.

Strikes Causing Builders To Hold Off

W. A. Shoemaker, of the Bloomfield (Ind.) Brick Co., is another of the Indiana brick men who is finding fault with the building trades. He says the strike is not having so much immediate effect on construction already started, as it is having a psychological effect on contemplated work. Persons, he says, who are contemplating construction are holding off on the contracts until it is seen whether the men go back to work at a decrease in wages. In this case, they will reject all bids received under the former scale of wages, and call for new bids. By this time, weeks have been lost during which the brick business is certain to suffer and it is altogether probable that in some cases the season will be so far advanced that the projects will be laid over a year.

Madisonville May Get 75,000 Capacity Plant

From Madisonville, Ky., it is reported that John J. Moroney is contemplating erection of a brick plant with a daily capacity of 75,000 brick. Mr. Moroney is from Chicago.

Rush of Business Exhausts Own Stock

Harry Cramer, of the Lexington (Ky.) Brick Co., did not have a large carry over stock from last year, and this spring ran into so much good business that he had to call on the Southern Brick & Tile Co., Louisville, Ky., and some other concerns for a few cars of brick to hold him, until new brick started coming thru the plant. A large amount of good work is coming out in Lexington this year. There are also some fair prospects, at Frankfort, Ky., where a new company is being formed to erect a large and modern hotel.

Will Purchase Machinery to Start Plant

It is reported that Ben Medley, of the Medley & Bolger interests of Owensboro, Ky., who have been operating a brick plant, is planning to install equipment and start manufacturing brick.

Adds Pug Mill to Plant Equipment

The West Point (Ky.) Brick & Lumber Co. has recently added another pug mill to its stiff mud plant, which gives it a daily production capacity of 35,000 brick going into the kilns when running.

Starts Machines Working

The Progress Pressed Brick Co., of Louisville, Ky., has been down for some months while cleaning up stock on hand, but is beginning to run low, and expects to start filling up kiln space shortly, and will probably be burning again before long.

Few Homes Built by Individuals

Building projects are very slow in developing just now, and Louisville, Ky., brick and hollow tile men are traveling considerably in their efforts to pick up out-of-town business, and watching the country town developments with particular interest.

In the residence end most of the work is in connection with erection of sale buildings by the building and real estate interests, there being but few individuals erecting homes for their own use under existing conditions. There is a general tendency to wait for labor and building materials to come down in view of the fact that other commodities have fallen, and in view of the fact that labor is being steadily cut in other lines.

Active Building Not Yet Begun in Louisville

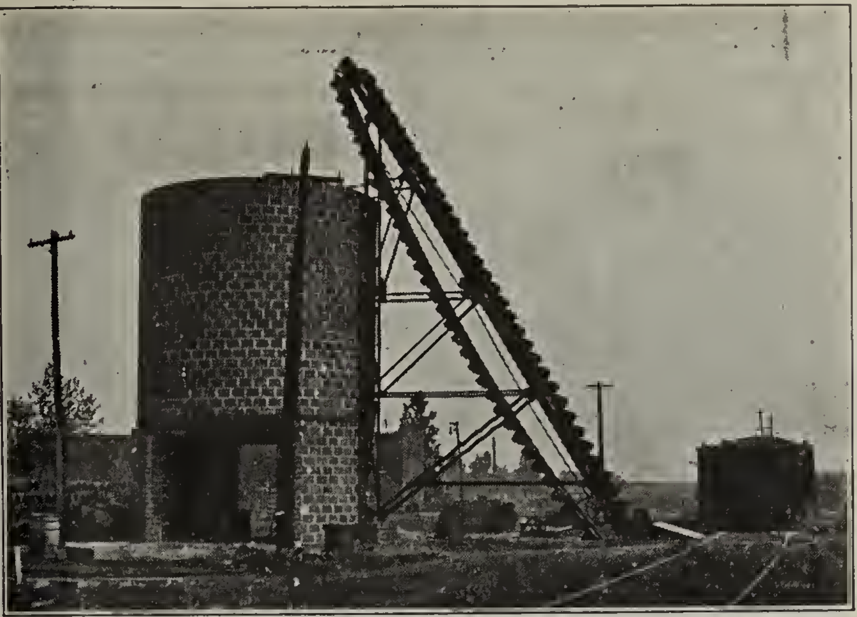
Conditions in Louisville, Ky., are showing no material improvement, building operations continuing to drag, due to weather conditions and slowness of capital to back building projects of any kind. It is reported by brick manufacturers and those making tile that the bulk of their demand just now is from out in the state, local demand being quiet. Tile has been very quiet. Sewer pipe business is improving somewhat.

It is pointed out by some of the manufacturers and jobbers handling glazed and plain building tile that there should be an increased sale of tile for garage building, but the idea is not being pushed or advertised.

A number of the Louisville brick and tile companies report that such concerns as are running on full time basis are putting about twenty-five per cent. of their production into stock, and moving the balance.

Maine Plant to Begin Work

Operations will be started shortly at the brick plant of John Webster & Sons at Wales, a suburb of Lewiston, Me. Only a small crew will be employed but the company plans to turn out 400,000 brick during the season. Two machines are operated. The brick yard is located on the Webster farm and has been operated for about twenty years.



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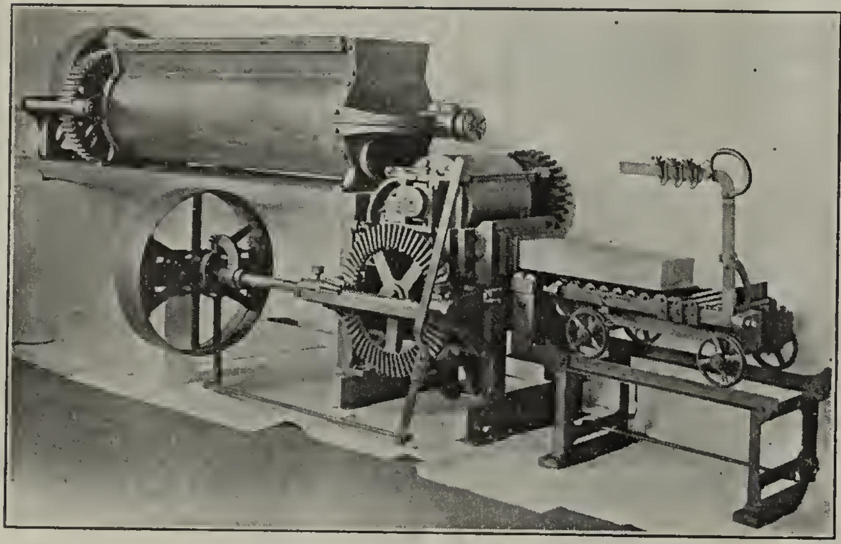

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Brick Company Doubles Capital

The Queen City Brick & Tile Co., Inc., with plant at Cumberland, Md., has arranged for an increase in capital from $100,000 to $200,000 for proposed expansion.

Fire Brick Plant Starts Up

Work has been resumed at the fire brick plant of the Union Mining Co., Mount Savage, Md. This company shut down in January due to business depression and labor troubles. The company started work with approximately 100 men and will operate on a five-day basis. 50,000 brick is the daily capacity when working at full time.

Explosion Damages Company's Mines

The clay mines of the Big Savage Fire Brick Co., located in the mountains, near Frostburg, Md., were damaged recently by an explosion, causing a loss estimated at about $25,000. The disaster rocked the country for several miles around, and the immediate vicinity was showered with debris. The company has been giving employment to about 100 men, and operations will be resumed as soon as the property is cleared. The plant has been engaging on a non-union basis since last November, following a strike of the men, and there has been no settlement with the union men since this time.

Rebuilding Refractories Plant

The Presbey Stove Lining Co., Taunton, Mass., has awarded a contract to Franklin D. Williams, Taunton, for the erection of a one and two-story plant building, to cost about $25,000. It will replace a portion of the company's works recently destroyed by fire.

Takes Over Indiana Company

The Kalamazoo (Mich.) Clay Co. has taken over the plant of the Carbon (Ind.) Mining Co. The company's offices will be maintained at Kalamazoo for the present.

Work on Linings for Locomotive Fireboxes

The Fulton (Mo.) Fire Brick Co., which had planned to shut down for a month, was given a week's grace when orders were received to enable the plant to run for six more days. The order came from the East and was for linings for fireboxes of locomotives. The local plant has been running about three days a week with a curtailed force and it had been hoped to keep the plant running during the summer, but the lack of orders resulted in the decision of the company to close down until business conditions improve. General Manager L. U. Nickell, who has been in several sections of the country in the interest of the company, believes that the depression has reached its depth and that there soon should show a marked improvement.

Fire Brick Man Is Optimistic on Outlook

A. P. Green, of the A. P. Green Fire Brick Co., Mexico, Mo., is optimistic about the future in the fire brick business and he predicts that the country will rapidly recover from the business depression under which it has suffered since the first of the year. The Mexico plant laid off 150 men earlier in the year, but has taken back about 50 of these men and hopes to offer work to still more as the conditions in the business world improve. The company has two fire brick plants here, and for several years has been operating them at full force. The company has branched out in the matter of securing fire clay and when operating at capacity gets quite a bit of fire clay from mines it owns at Fulton, Mo., where there is one of the largest deposits in the country. Mr. Green has been negotiating with land owners near Fulton for sometime for additional leases and has been drilling to ascertain the depth and quality of the clay that underlies these tracts. With the betterment in business conditions he expects to reopen negotiations for the purchase of the tracts on which he has options.

Putting Old Brick Plant in Shape

R. A. Cowper, of Billings, Mont., has leased the site of an old brick plant at Harding, Mont., and has employed a number of men to put the plant in shape for the production of brick, a report states. A quantity of machinery has been shipped from Canada and the first kiln of 150,000 brick is expected to be burned very soon.

Operating Both Plants at Capacity

The Independent Brick Co., Trenton, N. J., is operating its two main plants at Bordentown and Kinkora, N. J., at capacity, producing about 660,000 brick per week. The company also has plants at Trenton and Fieldsboro, and is the largest producer and distributor of common brick in central and southern New Jersey. The maximum output of the plants is rated at 1,000,000 brick per week, or about 50,000,000 brick a year. The company also engages extensively in the line of face brick, fire brick, paving brick, hollow tile, drain tile, et cetera.

Reducing Common Stock Shares

The Brooklyn White Brick Corporation, 15 William street, New York, N. Y., has arranged for a reduction in the number of shares of common stock to be issued from 7,500 to 375, all of no par value. Sydney Grant, is president, and James N. Dunlop, secretary.

To Operate Clay and Oil Interests Separately

John Baker has handed in his resignation to the Hocking Valley Products Co., to take effect June 1. The Hocking Valley Products Co., is separating its brick and clay products department from its oil interests and will operate each independent of the other. Robert Taylor will be placed in charge of the brick branch. His title will be resident manager.

Alliance Company's Plant to Begin in June

The Alliance (Ohio) Brick Co. will start operating its new plant in June. Face brick will be manufactured principally, and will add considerably to the present output of this concern which now operates two plants in Alliance. The plant will be modern in every detail. The Alliance Co. supplies dealers east of the Missouri River with face brick and tile.

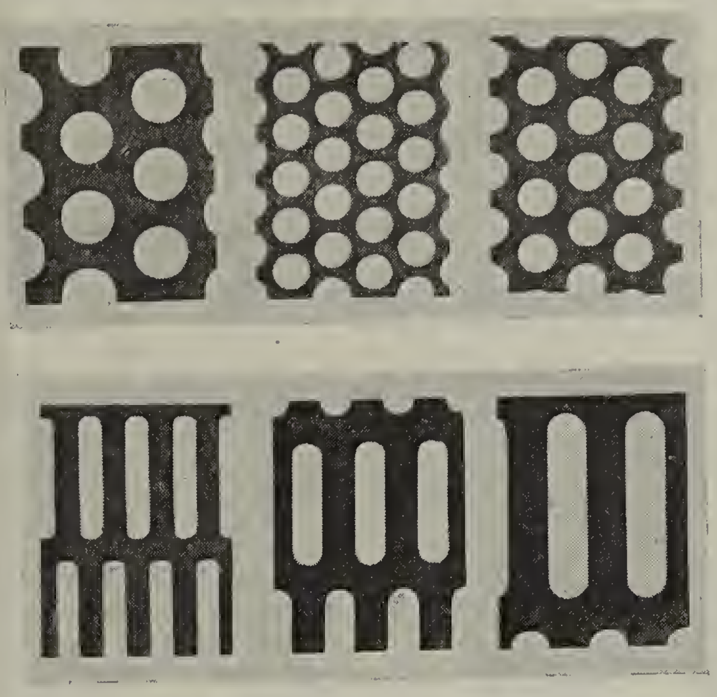
Plants Gradually Opening Up in Ohio

The demand for all kinds of brick and other clay products in Central Ohio territory is holding up fairly well under the present unsettled industrial conditions. All of the factories and dealers report some demand altho there is no zip to the trade as is noted at this season in former years. Plants are gradually resuming operations and a fair volume of business is moving.

Demand Employers' Recognition of Unions

Gloucester, Ohio, was the scene of an industrial controversy recently. Workmen employed at the Gloucester brick plants demanded recognition of their newly formed union. Employers refused to recognize the unions, claiming that none of the men in the other plants in the Hocking Valley district are organized. The labor union leaders will endeavor to organize the other plants immediately.

Perforated Steel Screens



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Sheets furnished flat or rolled to shape for revolving screens.

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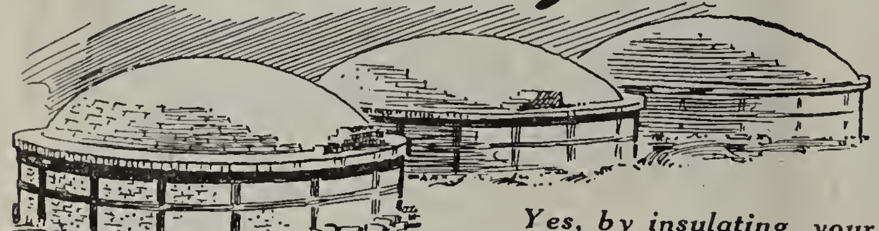
Can you reduce your number of rejects ?



Yes, by insulating your kilns with SIL-O-CEL.

SIL-O-CEL is composed of billions of dead air cells which prevent the penetration of heat.

Where there is no escape possible for heat, the temperature is bound to be more uniform. Such being the case, the chances of certain products being burned while others remain unbaked is reduced to a minimum. In addition to this, there is a material saving in fuel—consequently a saving in dollars and cents.

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We have prepared for the Spring and Summer building boom. Have You?

We have all standard mesh manganese, especially prepared for Brick Making, in stock ready for prompt shipment, with our mines and mill running full time.

If you have not already arranged for your 1921 supply of MANGANESE, we would advise that you send us your order for your requirements at once.

We guarantee an even grade product at all times.

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Reduce Wages to Thirty-five Cents

One hundred and seventy-five employes of the Robinson Clay Products Co., sewer pipe works at Midvale, Ohio, were reduced from forty cents to thirty-five cents an hour. Only one plant of the Strasburg district continues to pay forty cents an hour, it is said. The sewer pipe and fire brick market did not show the expected revival that first spring orders indicated.

State Plant Has Stock of Million Pavers

The state leased brick plant at Junction City, Ohio, operated by the Ohio Board of Administration by the use of convict labor has stopped the manufacture of paving block and has turned its attention to making building brick. At present there are about 1,000,000 paving brick in stock. Since the building program of the Ohio Board of Administration for the coming two years comprises a number of large brick structures it was thought best to change to the manufacture of building brick. The plant has a capacity of approximately 50,000 building brick daily.

Ohio Commons Still Dropping

Price of common brick in Columbus and central Ohio territory are still being reduced under the influence of reduced demand. Shale brick are now selling from $17 to $18 per thousand, delivered on the job, while sand mold brick are about $1 less. Face brick, on the other hand, are holding rather firm at former levels with prices ranging from $25 to $30 for the usual shades and $32 to $38 for buffs and grays. A larger number of the face brick plants in the Hocking Valley section are now in operation and some reserve stocks are being accumulated.

Adds Two Products to Selling Line

The Columbus (Ohio) office of the Thomas Moulding Brick Co. has taken on two new lines of face brick. This has necessitated the rebuilding of the large brick exhibits in the Hartman Building. The company has taken on the line of the Mapleton Clay Products Co., at Canton, Ohio, and the Martinsville (Ind.) Brick Co. In addition the Columbus office handles the brick of the Straitsville Impervious Brick Co., the Fultonham (Ohio) Texture Brick Co., the "Golden Rod" line made by the Indiana Fire Brick & Clay Co., at Mt. Silica, Ind., and the Tiffany Enamel Brick Co., at Momence, Ill.

Belden Brick Co. Builds New Offices

Immediate erection of a two-story mercantile and office building is announced by the Belden Brick Co., Canton, Ohio. The building will be entirely fireproof and will be 66x100 feet. The company will maintain its offices in the building. The Belden Brick Co., was organized twelve years ago and since that time its growth has been rapid.

Officers of the company are: L. B. Hartung, president; P. B. Belden, secretary and general manager; P. W. Hartung, treasurer. B. Holwick is vice president. These men with John T. Blake form the board of directors.

Working to Change Paving Bond Statute

Columbus, Ohio, paving is being held up because the state law would not permit the sale of bonds for street improvements before assessments on the property owners are made and the city charter will not permit the assessments to be made until the work is completed. The dilemma was removed by a recent act of the Ohio General Assembly but the amendment does not become effective until January.

City Attorney Leach has prepared an amendment to the city charter removing the difficulty and it is believed that the amendment will be passed as soon as possible in order to help along street improvements.

Labor Forcing Employers to Open Shop

Daily developments in Cleveland's building strike involving 25,000 men and $40,000,000 point to a resumption on some basis or other at no distant date. While the situation nominally remains unchanged, significant events are shaping themselves rapidly.

The most significant development is the announcement of the Building Trades Employers' Association to the effect that the actions of the labor unions themselves are forcing the employers into an open-shop attitude which up to the present they have been anxious to avoid.

The workmen are not disposed to violence, and it is the belief that the two sides will come to terms very soon after negotiations are finally opened.

New Cleveland Company Making Tile

With prominent members of the brick and tile industry of Cleveland, Ohio, backing the enterprise, another brick and tile plant has been added to that district recently. The Clay Workers Service Co. has been organized and this firm has purchased the Louisville (Ohio) Brick & Tile Co.'s plant and is now turning out tile for use in the Cleveland territory. Headquarters have been established at 300 Erie Building, Cleveland.

Leaders in the new enterprise are O. C. McCormick, long identified with clay working promotion work in Northern Ohio; Leo A. Krueger, head of the Cleveland Clay Products Co., face brick specialists; Alvin O. Preyer, head of the building supply department of the Goff-Kirby Coal Co., and A. Demarest, formerly of the Kelly & Demarest Co., Cleveland. Mr. McCormick is president; Mr. Demarest, vice-president; Mr. Krueger, secretary, and Mr. Preyer, treasurer.

Eventually the company poposes to serve all Northern Ohio with its Louisville tile.

Cleveland Company Elects New Officers

Reorganization of the Cleveland (Ohio) Clay Products Co. is announced this week. At a meeting of the board of directors the following officers were named: President, Leo A. Krueger; vice-president, J. S. Hurd; secretary-treasurer, R. R. Burnham. Mr. Krueger was re-elected. Mr. Burnham is one of the best known representatives in the brick and clay-working industry in the northern Ohio territory. He formerly was connected with the Cuyahoga Builders' Supply Co., in Cleveland. John Scheuer, former secretary-treasurer, resigned to enter other business.

The Cleveland Clay Products Co. is one of the few institutions of its kind to operate its own mortar color plant. Interests of the Velvet Mineral Products Co., at Urichsville, Ohio, have been acquired, and the material, to be used in conjunction with the face brick, in which the Cleveland Clay Products Co. specializes, will be distributed all over the United States and Canada.

Planning for Clay Plant in Oregon

Oregon is to have a new clay plant for the manufacture of fire brick and drain tile if plans formulated can be carried out, it is said. Negotiations for the purchase of certain lands containing clay deposits are being made and if successful a plant employing approximately 130 men will be built. The clay lands are about six miles southeast of Baker, Ore.

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Delaware Clay Products Changes Office

It has been announced by the Delaware Clay Products Co., Pittsburgh, Pa., that on and after April 26, 1921, their offices will be located at 807 Westinghouse Building, Penn Ave. and Ninth St., Pittsburgh.

Acquire Brick Plant

It is reported that Charles H. Price has purchased the brick plant on the road between Quakertown and Richlandtown, Pa. It is expected to get the plant in working condition and start manufacturing about July 1.

Open Shop Threatening in Philadelphia

There is little to report regarding the strike of the building trades in Philadelphia. The past week has produced one of those usual dull periods which characterize long-drawn-out strikes. Both sides continue to make claims, but the assertions of the union leaders must be discounted.

It is now quite evident that the builders are aiming at an open shop, despite their statements that they will deal collectively with the men on the new basis. The operators are in a position where they can win the strike, and they mean to continue as they have been since May 1. Some important developments may be expected within the next thirty days.

Orders Coming in Steadily

Operations have been started at the plant of the Eagleville Brick & Tile Co., Murfreesboro, Tenn., after several months of idleness. The company is making drain tile and orders are daily coming in for its product. A fine quality of clay is said to be available.

Estimating More Building Than Ever Before

Sounding a note of optimism regarding the imminent revival of construction activity, which will soon be recognized thruout the country Robert Fulcher of the Fulcher Brick Co., Nashville, Tenn., said recently, "Never in the time I have been connected with the building business have I done as much estimating on building about to be done as I have during the past sixty days." Aside from the mere estimating of contemplated building projects the Fulcher Brick Co. has secured contracts for the brick on a large number of good-sized buildings. In anticipation of the resumption of construction in large volume production on a full time basis has been begun.

To Build Plant at Tyler, Tex.

Announcement is made that George R. Hill of Tyler, Tex., a man with considerable experience in the brick manufacturing business, is making plans for the building of a brick plant at Tyler. There is at present no clay plant in that city and it is expected that the contemplated plant will have a capacity of 10,000 brick daily.

New Company Begins Operating

Organized last December, the Nitro Brick & Tile Co., of Clarksburg, W. Va., is now operating, it is said, and is producing 10,000 brick daily. The concern has a potential capacity of 15,000 face brick daily. The brick are dried in eighteen to twenty hours while the burning requires from seven to ten days.

Transfers Ownership of Badger Brick Concern

Announcement has been made of an important change in the building supply manufacturing field of Wisconsin with the sale of the plant of the Wisconsin Red Pressed Brick

Co., Menomonie, Wis., to the Excelsior Brick Co. The entire plant, good will, stock and appurtenances of the Red Pressed Brick Co. are transferred in the deal and the general offices will be moved to Menomonie from Minneapolis, Minn. Except for the change in ownership, no other changes are to be made, the business continuing under the old name. The plant turns out a high-grade quality of common red building brick, well known in building supply circles of Wisconsin and vicinity as "Menomonie Brick." The equipment is modern, being electrically operated, and the plant has an annual capacity of 6,000,000 brick, or 55,000 a day during the active season. The company will continue to operate and will be under the management of F. J. McLean, J. P. McLean and Oscar Wilson. About fifty men are employed.

Clay Man Made Officer of Gas Consumers

Reeve H. H. Hallatt, proprietor of the Tilbury (Ont.) Brick & Tile Co., has been elected secretary-treasurer of the Municipal Gas Consumers' Association.

Adopts New Name

The name of the Shale Brick Co. of Canada Ltd. has been changed to Cooksville Shale Brick Co. Ltd. and the capital has been increased from $1,600,000 to $2,000,000. The plant is at Cooksville, Ont., and A. U. Cote, Crown Office Building, Toronto, is manager.

Canadian Clay Concern Incorporates

Windsor (Ont.) Clay Products Ltd., has been incorporated with a capital of $250,000 by Peter Osterhout, J. C. Pennington, J. D. Chick, and F. D. Davis all of Windsor and S. A. Griggs, Walkerville, to manufacture brick, tile and other clay products.

Getting Ready for Busy Season

The Lakeside Clay Products Ltd., Vernon, B. C., is arranging for a busy season and just as soon as the machinery has been placed and is ready for operation, the manufacture of brick will be commenced. In view of the large number of inquiries which have been already made, there is every indication that the demand will be brisk.

Atlas Brick Co. Buys Plant

The Atlas Brick Co., Ltd., has purchased the Boyd brick plant at Milton, Ont. The kilns have been repaired and a good quality red brick is being produced. The Boyd plant is adjacent to that of the Toronto Pressed Brick Co., now owned by the Milton Pressed Brick Co. The Atlas Brick Co., Ltd., is controlled by the Interprovincial Brick Co., of which F. B. McFarran is manager. The present capacity is 20,000 per day. The Interprovincial plant is at Chettenham. Mr. McFarran reports business good, no excess brick being on hand and orders requiring the full production of the two plants.

Increases Capital from $40,000 to $250,000

The Superior Brick & Tile Co. Ltd., Fort William, Ont., has increased its capital from $40,000 to $250,000. The company has taken over the plant of the Superior Brick Co. Ltd., and is now installing some modern equipment and improving manufacturing methods. The head office is at 426 Victoria Square, Fort William. The plant is located at Rosslyn village, seven miles west of Fort William on the Canadian National Railway. At this plant the concern has equipment to produce 50,000 brick per day. The brick are of the kind known as smooth wire cut, art, corduroy, and so forth. The directors are A. A. Ayer, Montreal, president; G. R. Duncan, Fort William, manager; H. Cryer, Fort William, secretary; Dr. Milton Hersey, Montreal, and George T. Hartt, Montreal.

"The ERIE is the most up-to-date and complete shovel on the market today." *H. C. McLenithan, Duffney Brick Co., Mechanicville, N. Y.*

"OUR ERIE has more than paid for itself in 10 months and is as good as new. We are averaging 360 cu. yards a day in tough blue shale." *J. M. Purcell, Pres., Duffney Brick Co., Mechanicville, N. Y.* (They now own 2 ERIES.)

The ERIE gives steady, reliable service digging stiff clay or hard shale. A careful comparison of steam shovels will convince you that the ERIE is the shovel to buy.

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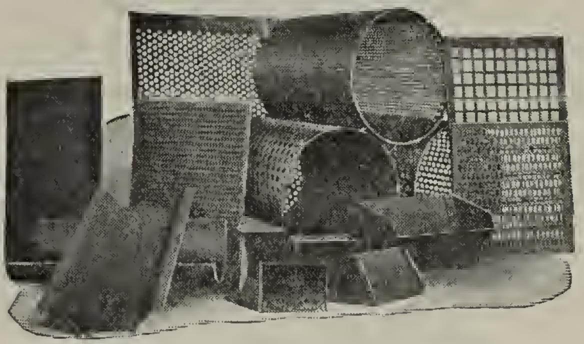

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Farm Research Will Aid Hollow Tile

(*Continued from Page 903*)

where they have 100,000 hogs (counting four-footed only), gets up and says: "Mr. Speaker, I move you that we reduce this appropriation for combating hog cholera $100,000," a dollar a hog for Connecticut, but you have got, gentlemen, in the United States, seventy million hogs.

ELEVEN STATES CEASE FIGHTING HOG CHOLERA

Now what does it mean to you? What does it mean to you that they should cut it, and they voted yes. It means that a staff of 154 men was reduced to forty-five, and that in eleven states in the United States the Bureau of Animal Husbandry of the United States withdrew entirely and said: "Go ahead, take the hogs and the cholera, but don't spend the money you might get in selling them for hollow tile. "Isn't that the result?"

That is what happened, and yet how many of you wrote a letter protesting about the reduction in the appropriation to fight hog cholera? How many of you wrote a letter protesting about the large increase in the appropriation for free seeds? Yet we are good business men, more than that, we are good citizens interested in what is contributing to the welfare of this country.

I could go on by the hour with illustrations. Take the cattle tick in the south. The cattle tick is costing you approximately what hog cholera costs you, and the most effective thing that has been done to get rid of the cattle tick has been to print posters half as large as that mirror and stick them up in the post offices all over the south with great big lines on it, "Dip your cattle in March. One tick killed in March means ten thousand in July and millions in August." That is the literal truth, but last year, gentlemen, we did not put up those posters because we did not have the money.

FARMERS BELIEVE CATTLE TICK NATURAL

The posters might cost 15 cents a piece. They might save an animal, each of them, of an average worth of $50, but we did not put them up because we could not get the money from congress to do it. Men have gone down there and have built dipping tanks to show the farmers, and the farmers would slip out at night and blow them up with dynamite. Men have been beaten over their heads for coming onto a farm and telling the farmer that it was not natural for cattle to have ticks. The farmer would say that cattle have always had ticks, and it is sacrilege, and it is against common decency to try to kill a tick to save the cattle.

Those are the men who are carrying the message and are being called slackers, and a congressman from Chicago calls them high-collared fellows with patent-leather shoes who never get off the sidewalks, and you and I stand for it. That is what I am protesting against, not that they do it, for they do it because they don't know, but you and I don't protest because we take no interest in the matter. We don't know what is going on and we continue to go right along.

BOLL WEEVIL CAUSES $200,000,000 LOSS YEARLY

I could go on with innumerable illustrations. Take the cotton boll weevil, and the pink boll worm. You are losing two hundred million dollars a year from the boll weevil, $175,000,000 for cotton and $25,000,000 for the seed. This quarantine board has insisted that they could not grow cotton in certain counties in Texas because there is a pink boll worm in there that came over from Mexico. They have fumigated every box car, every tramp, every automobile, everything that came over the past several years and it finally got in. We asked them not to grow cotton in six or seven counties the same as we asked them to see that the barberry bush didn't grow, and we did that to get rid of the pink boll worm. There was a protest. It is a long story, so far as Texas is concerned, and so far as having a director of research is concerned, who might have given particular and special attention to that, but what does it mean to you?

If the pink boll worm gets in it means that over and above what you are losing on the boll weevil you will lose just as much on the pink boll worm. One of them attacks the flower and if the flower gets passed and a boll is formed, and you have a prospect of cotton, then the other pest attacks the boll, bores into it, and it doesn't open. So it doesn't mean the same loss. It doesn't mean the loss of the same boll of cotton, but it means the loss of the boll of cotton that gets by. Can you take $200,000,000 more out of the cotton industry of this country and sell hollow tile in the south? That is the question.

ARE YOU WILLING TO SUPPORT FARMER?

It is a question of whether these things need support. It is a question of whether you and I are interested. It is a question of whether or not there is not a practical way to increase the sale of our product by taking an interest in agriculture, by taking an interest in the things that are fundamental to agriculture and in asking the farmer to raise his crop, not being so proud of our export market that we are willing that ten per cent. of the crop should fix the price on the whole 100 per cent. and that that price should be fixed at such a price that we can't sell tile or we can't sell trucks, or we can't sell tractors.

What the answer is, you can figure out for yourself, but something certainly should be done that shows some sympathy, some cooperation, some partnership with this man out here who is taking from the soil every year twelve billion or fifteen billion dollars to trade to you in the way of farm products for the product of your factory and the product of the labor that you employ, and in taking that interest it seems to me that we are doing not only what we should do as good business men, but over and above that and to me a way over, we owe it to our country as citizens.

* * *

Bill Aims to Stabilize Coal Industry

On May 14 Senator Frelinghuysen introduced his revised bill "To aid in stabilizing the coal industry". After consideration by the Senate Interstate Commerce Committee, that body advised and suggested certain changes which Senator Frelinghuysen subsequently made. The bill provides among other things full power to the President to authorize the Secretary of Commerce to investigate costs and profits in connection with the mining, sale, storage and distribution of coal.

A review of section four of the measure shows that the Secretary of Commerce is required to investigate from time to time the amount of coal produced and sold; the stocks of coal on hand in any section and the coal requirements in the section; the distribution of coal and coal cars in commerce; prices received on contract and market.

The Secretary is further authorized to investigate wages, working conditions, living expenses and so forth, of miners and other workmen. Section 8 of the bill says in part: "The Secretary shall investigate the desirability and practicability of a statutory zoning system defining the distance from the mine within which coal therefrom may be transported in commerce."

The bill gives the Director of the Bureau of Mines the power to "investigate the desirability and practicability of prescribing standards for various kinds and grades of coal prepared for the market." The measure also provides "that it shall be the duty of the Interstate Commerce Commission and the Secretary of Commerce to co-operate with each other......in promoting the proper distribution and use of coal cars to secure the most efficient transportation of coal in commerce."

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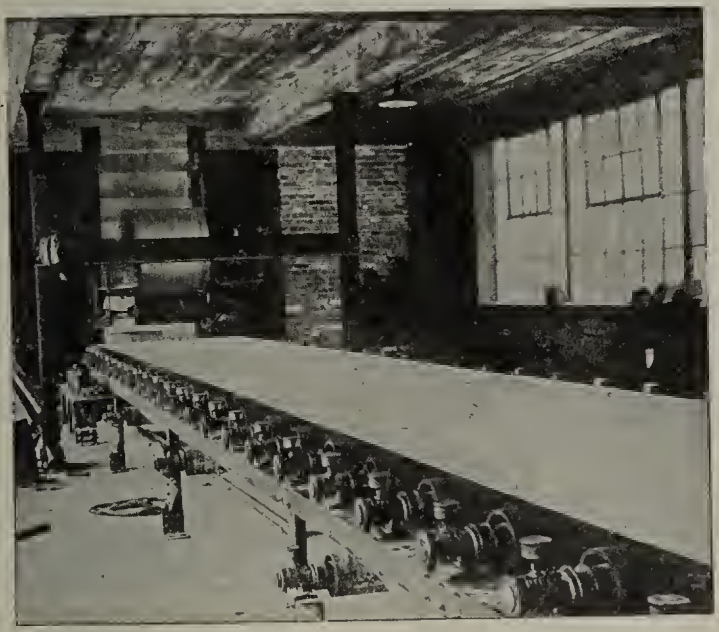

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"BIG CREEK"
for years has stood
for
SERVICE
and
QUALITY

The BUILDING SITUATION *in the* EAST

A CAREFUL CANVASS of conditions in the building industry in the eastern districts shows two prominent prevailing elements, working contrary to one another. Building material manufacturers, dealers and contractors who are getting their share of the work going around consider the situation as indicating a strong trend to bigger and better operations in the business, and actual records of current work bear out the supposition. On the other hand, the pessimistic sentiment is prevalent where orders are not shaping up to expectations, and conditions in this quarter are set forth as next to deplorable. This attitude is not going to help progress, but hinder it, decidedly.

Labor in this part of the country, a big factor in the situation, is righting itself into more fair and reasonable thinking; there is an attitude that indicates that reduced wage scales, equitably arranged, will not be taken quite so lightly as in weeks gone by, for the open shop movement, due to refusals to consider wage reductions, is showing a strong active growth in these parts. Employers are determined that wages must be lowered if there is going to be construction work in any appreciable amount, and a firm stand is being taken to carry out the intentions.

HOUSING CONSTRUCTION OF PERMANENT CHARACTER

The situation in the different sections may be summed up as follows: New England: The opening of the spring season has brought noticeably increased operations, particularly in the line of house construction in the important cities in this territory, and while the bulk of work is not quite of desired scope, the tendency leads toward brick and other permanent construction, with gradually growing call for material of this character. Workers in the industry are returning to their jobs, engaging under open shop stipulations and new scale of wages as laid down by the employers. The building strike, now on for many months, has not been declared off, officially, but it seems practically a dead issue.

In other parts of the State, there is a general righting of the situation. At New Bedford, Mass., the bricklayers and plasterers have entered into an agreement with the Master Builders' Association on a new wage scale of $1.07½ an hour, a reduction of fourteen per cent. over the previous schedule of $1.25. Carpenters have also ratified a new scale at eighty-five cents an hour. Bricklayers at Fitchburg are being asked to accept a reduction from $1.12 to ninety cents an hour, and carpenters, from ninety to eighty cents.

MATERIAL PRICES DROPPING

The Boston building material markets have shown a considerable change during the past fortnight, with reduction in quotations on brick and other burned clay products, as well as basic commodities of other character. Hudson River brick is now selling for $19 a thousand, delivered, as against a previous figure of $23.50; Connecticut brick is quoted at this latter figure, $23.50, at the present time, as compared with a level of $26 a fortnight ago. Face brick, rough textured, has declined to $42 a thousand, delivered, while regular face brick, water struck, kiln run, is priced at $35. Fire brick has found a good operating level at $55 and $65 a thousand, on the job, the first quotation being for No. 1 Standard, and the latter figure for high grade, selected stocks. Standard sewer pipe is now fifty-four per cent. off list, as compared with a previous discount of thirty per cent.; double strength sewer pipe is forty-one per cent. off list, as against fifteen per cent. a few weeks ago; flue lining is now fifty-five per cent. discount from list, as against thirty per cent.; and wall coping, fifty-four per cent., as against twenty-five per cent. Terra cotta partition blocks show a noticeable decline from $320 to $240 a thousand, 8x12 in. size, while 4x12 in. material is quoted at $130 as compared with $220.

No substantial change has as yet been recorded in the Providence, R. I., market, and with common brick sort of barometer of the trade, present quotations are at $32 and $35 a thousand.

BRIGHT PROSPECTS IN NEW YORK DISTRICT

New York: Residence construction, particularly of apartment character, continues to be the outstanding feature of the construction situation in Gotham. There is a pronounced movement in this line, as noted in recent issues of *Brick and Clay Record,* and the advent of spring has served to bring further work of this nature to light. While Brooklyn has held the lead in this respect, Manhattan and Queen Boroughs are showing increased inquiries for figures, and contractors report a bright outlook for the coming months.

Face brick is being used for local apartment operations in considerable quantity; it is the popular material, decidedly, with light colored varieties predominating.

A resumé of the first four months of the year at New York, including all five boroughs, shows a volume of construction work of about $92,000,000, and which, considering the lethargy that prevailed in the first sixty days of the year, is not disheartening. The month of May will bring up this total substantially, and the report of the local building bureau will be watched with interest.

MATERIAL DEALERS PLEAD GUILTY

As a result of the Lockwood Legislative Committee investigation, ten individuals and nine companies, members of the local Dealers in Masons' Materials Association, have pleaded guilty to indictments charging conspiracy to violate the Donnelly anti-trust act, and fines totaling $71,500 have been levied by the Supreme Court, the sums varying from $500 for the individuals to from $2,000 to $7,500 for the companies. In pronouncing the sentence, the Court set forth that the $500 fine was imposed because all of the defendants were found to be men of good standing, not oppressive and not profiteers. Furthermore, it was mentioned that by pleading guilty, they saved the state the cost of trial.

IN THE BRICK MARKET

During the middle week of May, a total of twenty-three cargoes of brick arrived in New York from Hudson River points, and the entire number was disposed of before the week closed; in the succeeding week, twenty-two cargoes were received, and this same number sold. Stocks are low, and only from two to three cargoes remain on hand. Brooklyn is absorbing the major part of the material, and in one week alone, eleven cargoes were sent to this district. New Jersey is also taking a fair supply, with a little material going into Long Island.

Prices show no change, and the $14 and $15 levels are being maintained without difficulty. Second hand material

Stop Big Leaks, Too

You very properly insulate your steam lines and boiler drums to save heat. Yet out there in the yard are your kilns, with seven or eight times as high a temperature, exposed to rain, wind, and all kinds of weather, leaking more heat in one burn than all your steam lines will lose in a year.

Nonpareil Insulating Brick

For Kiln Walls and Crowns

will do for your kilns what pipe covering does for your steam lines. By saving, as they do, 60% to 75% of the heat lost by conduction and radiation from walls and crowns as ordinarily constructed, Nonpareil Brick effect an important saving in fuel. For instance, the radiation loss from the average kiln is 20% to 25% of the total heat. Taking the lowest values, saving 60% of a 20% loss means 12% less fuel consumed for the same output—enough to pay for the insulation in a year or less. And Nonpareil Brick will last as long as the kiln.

Interested as you are in reducing the cost of burning, you will want the 72-page book, "Nonpareil Insulating Brick," which explains in detail the advantages of kiln insulation. A copy and a sample brick will be sent you promptly on request. No charge.

Armstrong Cork & Insulation Co.
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Also manufacturers of Nonpareil High Pressure Covering for steam lines, feed water heaters, etc.; Nonpareil Cork Covering for drinking water systems, brine and ammonia lines and cold pipes and tanks generally; Nonpareil Corkboard Insulation for cold storage and constant temperature rooms; Nonpareil Cork Machinery Isolation for noisy machines, and Linotile and Armstrong's Cork Tile for floors in offices, residences, etc.

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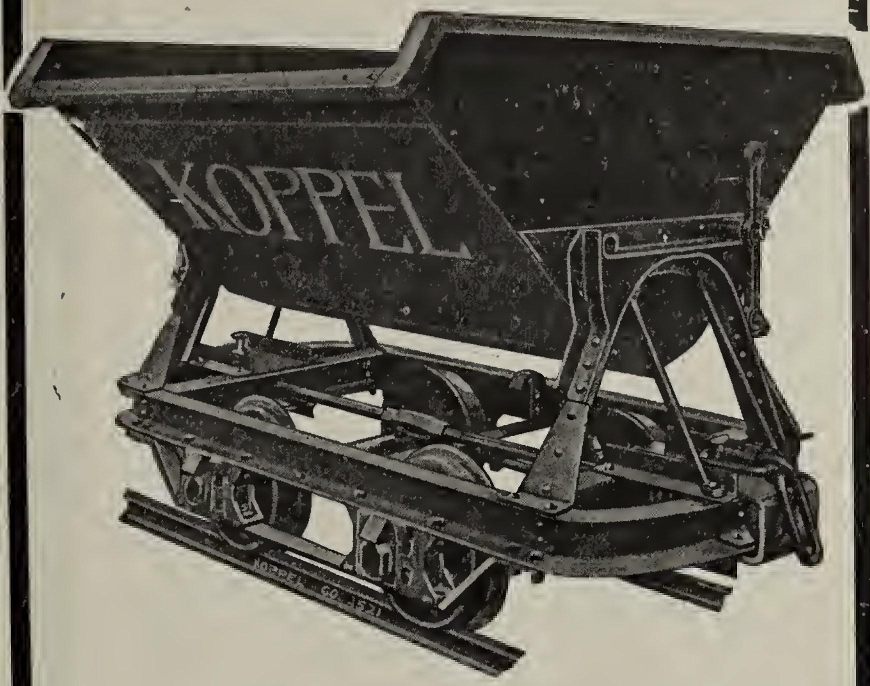

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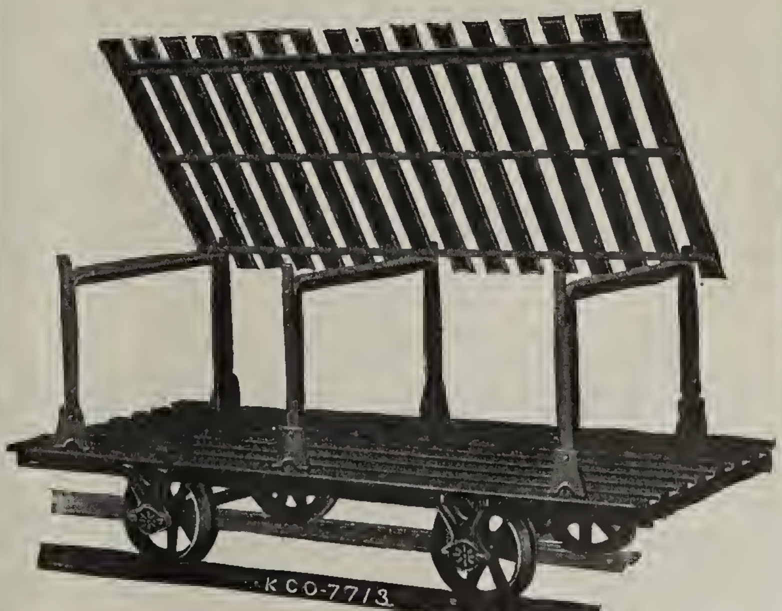


is being turned at $45 for loads of 3,000 brick delivered, and there is a fair average call for this grade of stock. The strike of the barge captains has not, as yet, been settled, and this condition has gone to intensify the buying movement, in anticipation that later cargoes may be delayed.

Fire brick shows a tendency to decline to lower levels, and comparison shows about a twenty per cent. drop as compared with the highest figures about this same time last year. New York dealers are asking around $70 for the material, delivered. Face brick prices vary from $45 to $53 a thousand, the higher figure being for rough textured varieties and the lower for Colonials and smooth brick.

HUDSON RIVER YARDS OPEN

The majority of the seasonal yards in the Hudson River district have commenced production under curtailed conditions, and it does not seem likely that normal output will ensue for several weeks, or until the New York market demonstrates a stable condition of continued demand. The prevailing average is from forty to fifty per cent. and this, it is estimated will give a total production of from 600,000,000 to 700,000,000 brick for the season, or a sufficient quantity to meet all expected requirements under present rate of construction.

The labor situation in the Hudson River section is decidedly easy, and there is plenty of help securable, with lower wage scales than prevailing thru last years. The fuel condition, also, is encouraging, and coal is readily available at reduced prices.

New Jersey: Housing and dwelling construction hold the center of attraction at the present time in construction circles in the different important sections of the state. Work of this character is forming the bulk of call for building materials, and is bringing the one cheerful sign in a revival of operations. Industrial work is moving very slowly, and there is no indication of much work of this kind during the present season.

BRICK AND HOLLOW TILE POPULAR

At Newark, building permits are laboring with totals of from $300,000 to $400,000 in estimated valuations per week; this is considerably below normal, altho in volume of activities, the work is shaping up well. Houses and garages are in great popularity, with brick and hollow tile the main construction materials. In discussing this trend, Tomkins Brothers, leading material dealers in this section, say that the public is beginning to realize that it pays to build for permanence, where both beauty and permanence can be obtained in the one operation.

Trenton and other points in South Jersey are showing an awakening spirit in regard to construction. In the first noted city, the building permits are showing a total of over $500,000 average a month, and each month is succeeding the previous period. Brick buildings and dwellings, hollow tile garages, and a wide variety of miscellaneous work, comprise a good proportion of the operations. At Atlantic City, plans are being perfected for a new hotel to cost about $5,000,000, and to be named the Harding, in honor of the President.

OPEN SHOP MOVEMENT GROWING

The open shop has been declared by the Building Trades Employers' Association, following the refusal of bricklayers, plasterers and other workers to accept a wage reduction. A declared strike was of comparatively short duration and a large number of men have returned to their jobs under the new conditions.

A like situation has developed at Perth Amboy, in the Raritan River section. The Master Builders' Association has announced open shop conditions, and striking workmen are now being taken back under this ruling, and with wage reductions varying from $1 to $2 a day.

While no great change has come about in the matter of prices in the different New Jersey municipalities, there is an uncertainty to the situation that leads the prospective builder to believe that lower figures are not far distant. Common brick has sagged to a $20 average, delivered, and there is no firmness to this figure. Hackensack yards are turning a fair quantity of material, with quotations around $18 at the kiln; deliveries, made for the most part by motor truck, are arranged at $20. Trenton brick prices are slightly in advance, altho the tendency is for $18 brick in this district.

PHILADELPHIA STILL SLEEPING

Fire brick has declined to $70 for No. 1 Standard, delivered in the northern part of the state, while $75 and $80 is being asked at Trenton and vicinity. Face brick is holding its own, and with figures varying up to $50 and $60 maintained, owing to the high freight rates as now prevailing from Pennsylvania points.

Philadelphia: Construction operations in the Philadelphia district are in a stagnant condition owing to the building strike which has not, as yet, been settled. Master Carpenters and builders are unable to come to any equitable agreement with the men, and a ninety-cent wage scale offered, and $1 compromise presented, in turn, by the men, the situation remains a deadlock.

Manufacturers and dealers are awaiting anxiously, a settlement of the labor controversy now on at Philadelphia, and in the interim, material movement is pretty near to standing still. There are few sizable orders being placed, and the bulk of call is for building improvements and alterations. Prices show little or no change. Common brick is firm at $20 a thousand, delivered; face brick is quoted from $37 upwards, good selections being obtainable at from $45 to $50. Fire brick is priced at $70 and $75, with lessened call as the summer season approaches.

STATE LABOR SITUATION

The Master Builders' Association at Easton has declared for the open shop, and men now out on strike will be taken back only on this basis. The members of the local building trades have refused to accept a reduction to seventy-five cents an hour. Carpenters at Allentown, recently out on strike, have returned to their work on a wage scale of eighty cents an hour; the State Arbitration Board will investigate and make a decision as to the fairness of this schedule. It is expected that seventy cents will be the minimum wage.

Wilmington: After a number of barren months in construction work at Wilmington, things are taking a turn and there is evidence of good spring activity in the industry, particularly with regard to housing operations. To assist the movement, local building material dealers, headed by Charles Warner & Co., are making a number of price reductions, averaging about fifteen cents a ton on sand and gravel products, and from fifty cents to $1 on lime, plaster, cement, and kindred materials. James B. Oberly is now selling brick at $23 a thousand, delivered. This is the second reduction made recently by the company.

* * *

Hydraulic-Press Brick Starts Another Plant

The plant of the Hydraulic-Press Brick Co., at South Park, Ohio, near Cleveland, has resumed operations. It is necessary to increase the stocks of face brick, now very much depleted officers say.

The Gateway to Better Things

BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men—in the only way that he can—in books. If you would be master of your work you must read and know what others know.

Brick Drying (English edition)	1.00
Bricklaying in Modern Practice	1.20
Bricklaying, Rudiments of Practical	.75
Bricklaying System	4.00
Brick Work (Walker)	.85
Brickwork and Masonry	3.00
Building Construction and Superintendence, Part 1, Masons' Work	6.00
Bungalows, Camps and Mountain Houses	2.00
Ceramic Industries (A Treatise on) E. Bourry	6.00
Clay Plant Construction and Operation	4.00
Clays: Their Occurrence, Properties and Uses	5.00
Clayworkers' Handbook	6.50
Clay Working Problems	1.50
Directory of Dealers	.50
Engines and Boilers	1.50
Engineering for Land Drainage	2.50
Estimating Frame and Brick Houses	1.50
Finding and Stopping Waste in Modern Boiler Rooms, Vol. 2	1.00
Garages and Motor Boat Houses	2.00
Glazer's Book	1.25
Hollow Tile Silo, 100 copies	5.00
How to Build Up Furnace Efficiency	1.50
Land Drainage	2.00
Manufacture of Roofing Tile, (English Edition)	1.25
Manufacture of Roofing Tile (Worcester)	.75
Modern Brickmaking	7.00
Powdered Coal as a Fuel	4.50
Practical Farm Drainage	1.75
Producer Gas and Gas Producers	4.00
Refractories and Furnaces	5.00
Rock Excavation, Handbook of	5.00
Scientific Industrial Efficiency	2.00
Scumming and Efflorescence	.50
Silo (The Hollow Tile) 100 copies	5.00
Steam Power	2.50

Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent. import duty.

Address, Book Department,

Brick and Clay Record
610 Federal Street, Chicago, Ill.

EQUATOR COAL

↓

FOURTH VEIN
OR
HARRISBURG

"Wherever It Is—It's Hot"

4th Vein

THE SUPERIOR COAL FOR BURNING CLAY PRODUCTS AT A LOWER -COST-

SOLD ONLY BY

The FARLEY HOPKINS COMPANY
Fisher Bldg. CHICAGO

The Way to Greater Coal Economy

The advantages of a jointless fire brick are obvious. No heat can escape—no joints to start disintegration—no cracks to hold clinkers.

PLIBRICO
JOINTLESS
FURNACE LINING

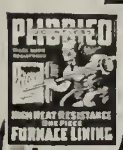
forms one massive heat-resisting setting which expands uniformly, preventing cracks and breaks. It remains heat-tight under modern high temperatures up to 3100 degrees F.

PLIBRICO has been thoroughly tried out. We can send you convincing endorsements from some of the largest firms in the country, if you are interested.

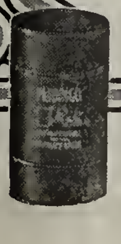
Shipped promptly in large steel containers of distinctive appearance as shown below.

PLIBRICO is used in every case where laid-up fire brick is used, and with better results. Try it on a front-door arch or wall, or on baffle walls, and the saving effected will demonstrate the greater value of a complete PLIBRICO setting.

Send for our booklet S2 on Furnace Building.



JOINTLESS
FIRE BRICK CO.
1147 CLAY ST., CHICAGO, ILL.



MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

"The Marion Excavator"

This is the name of the shop paper issued by the Marion Steam Shovel Co., Marion, Ohio, and in writing *Brick and Clay Record* about it recently they called attention to the fact that while it is not so elaborate as some shop publications, it does contain some excellent articles. For instance, in the April issue they started a series of articles on the Evolution of the Steam Shovel, written by Mr. Gracely, of the company.

If your name is not already on the mailing list for "The Marion Excavator" it would be well to get in touch with the Marion Steam Shovel Co.

⁂

"Through the Meshes"

This is the appropriate name of the house organ issued by W. S. Tyler Company, Cleveland, Ohio, manufacturers of screens. It has a large circulation and if the May number is a fair sample, it will be to your advantage to be on their mailing list. The price is ten cents per copy to those outside the trade, but free to those interested in screens.

⁂

The Wellington Machine Co.

The above is the correct form for the name of this Ohio manufacturer of the Strickland Automatic Brick Machine and other equipment for clay plants. Thru an error the May 17 advertisement omitted the "Machine" from the name. We apologize to the Wellington Machine Co.

⁂

George P. Oliver, 471 Third Avenue N., Troy, N. Y., was so much pleased with the colors purchased from Ricketson Mineral Paint Works, Milwaukee, Wis., that he took the trouble to write them about it. His letter follows: "I use your colors for fancy fire places of face or pressed brick, and also for decorative stucco work, such as panels, columns, sills and caps. I have wonderful success with your famous colors; they are certainly all that you advertise. I have used none better."

⁂

Toronto Grinding Pans and Wet Pans

Bulletin W-1 issued by The Toronto Foundry & Machine Co., Toronto, Ohio, gives illustrations and specifications covering their line of wet pans. Bulletin D-2 tells about their grinding pans. There is nothing "fussy" about the bulletins, but are neatly printed and give the intended information in a clear, businesslike way. Refer to the bulletins by number when writing.

⁂

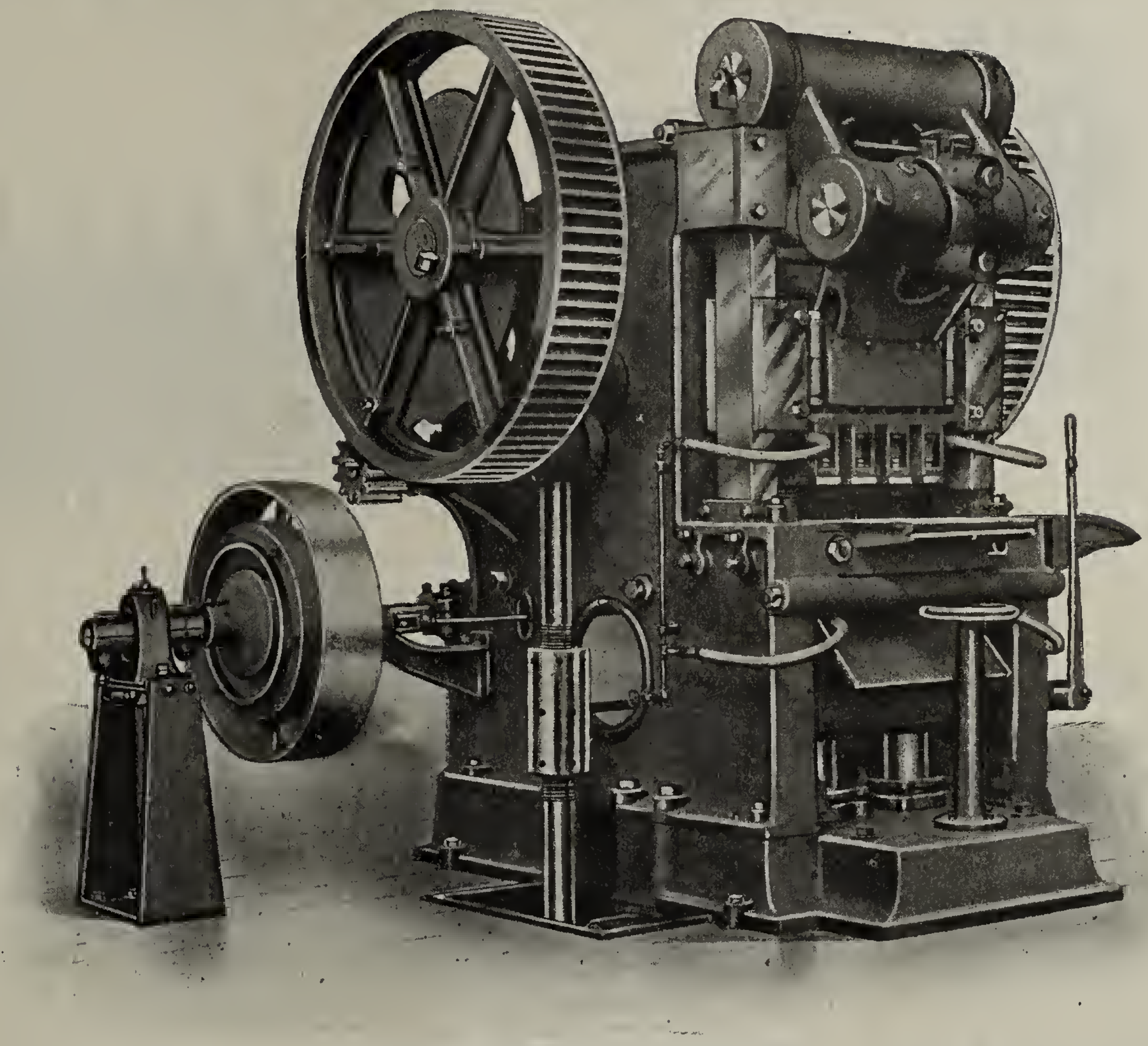
Of Interest to Executives

Executives in various positions will be well repaid in devoting a little time to an interesting book published on Solid Woven Cotton Belting. The book treats of the economy in buying belting of this type, tells where its use is advisable, naming the installations. A surprising number of well known concerns are quoted as using it successfully.

A copy of booklet will be sent free upon request to the Stanley Belting Corporation, 34 So. Clinton Street, Chicago.

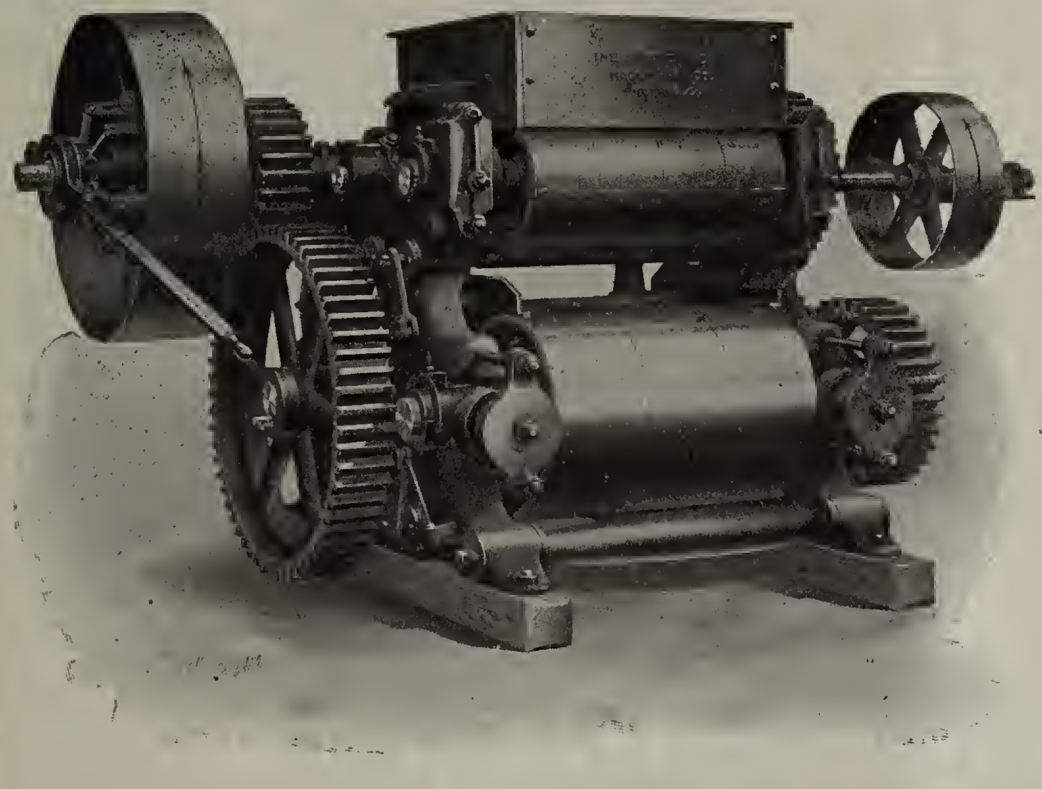
American Model "C" Dry Press

For dry press brick the American Model "C" Press is highly recommended. It has excess strength, simplicity and speed. It makes brick of superior quality, dense with true edges and smooth sides. Get the Model "C" Bulletin, it's free for the asking.



American Model "C" Dry Press

American No. 10 "D" Crusher



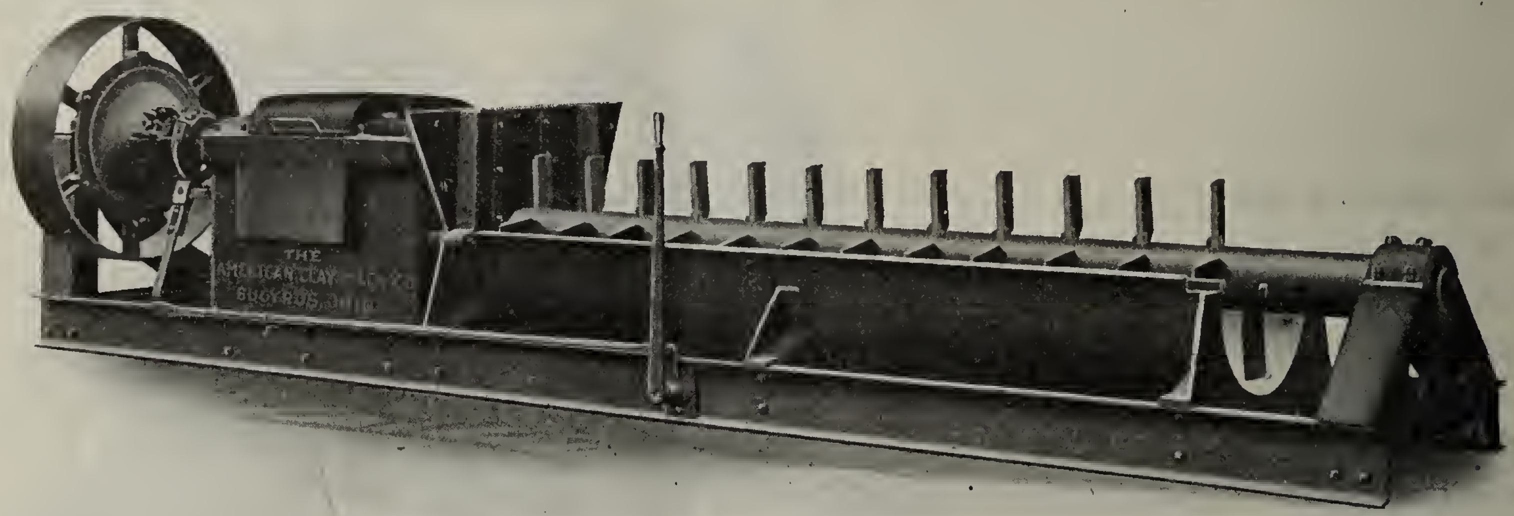
American No. 10 "D" Crusher

This American No. 10-D Crusher is a favorite with Clay Plant owners. It has many superior features and will be found dependable to the limit. It's built for capacity and will be found extremely simple and satisfactory. Get the No. 10-D bulletin for all the details.

The Hadfield-Penfield Steel Company, Bucyrus, Ohio

Formerly The American Clay Machinery Co.

American No. 354 Granulator



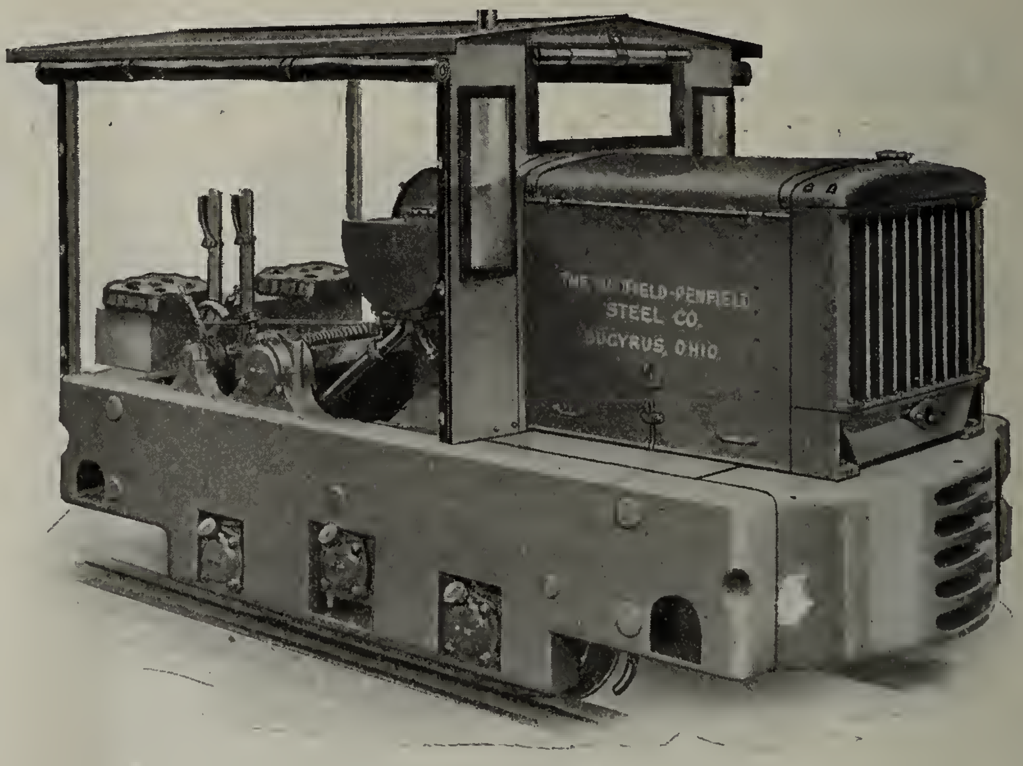
American No. 354 Granulator

The American No. 354 Granulator is a superb machine. It is splendidly built and is thoroughly reliable for producing a maximum output of well prepared clay. It will pay you to get posted on the superior qualities of this machine. We have a Bulletin, No. 354, which will tell you all about it. Drop us a line asking for this bulletin and particulars about any clay working machinery or appliances in which you may be interested. We build them all.

American Gas-O-Motive

The American Gas-O-Motive is the Clay Worker's best friend when it comes to reducing clay haulage cost.

It is built to haul heavy loads and to negotiate reasonable grades. We suggest that you get in touch with us on this haulage proposition. We want to show you one of these Gas-O-Motives on the job.



American Gas-O-Motive

THE HADFIELD-PENFIELD STEEL CO.

Formerly The American Clay Machinery Co.

BUCYRUS, OHIO

Gasoline Locomotive Sales Dept., 404 Hippodrome Bldg., Cleveland, Ohio

BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

PROVING THERE IS BUSINESS IF YOU KNOW HOW TO GET IT!!

SOMETIMES there is a big story contained in a seemingly insignificant incident. Ordinarily, in the humdrum of routine, a classified advertisement would not appear to have any romantic possibilities, but it so happens that a few lines in the classified section of this issue of *Brick and Clay Record* have a big tale to tell. Here is the ad:

> "Sales organization wants additional hollow tile tonnage to sell for distribution thru Central States. In replying give capacity, sizes, nature of clays and full information."

There are two points worthy of note in this small advertisement. The first is that it is a *sales organization* which is in the market for this additional hollow tile tonnage. What the clay products industry needs perhaps more than anything else at the present time is efficient and effective salesmanship. It may seem vain repetition to say that clay products manufacturers on the whole know how to make good ware. While many improvements are possible, we believe that on the average, clay products are well made. What they need, is to be sold. Organizations with men of *sales* ability and the *will* to do, are out getting business. They are not complaining about "hard times."

The second noteworthy fact in connection with this advertisement is that this company is working with the building supply dealer and is advertising what it has to sell to the dealer thru *Building Supply News*, a recognized material retailers paper.

The significance of this whole incident is that it illustrates a truth which we have been endeavoring to impress upon the clay products manufacturer, namely, that his future, amidst growing competition from other materials, lies in the direction of efficient salesmanship, dealer distribution and effective advertising.

* * *

HISTORY REPEATS ITSELF

SOME twenty years ago the manufacturers in the metal trades industry were threatened with a calamitous condition directly resultant of a union labor campaign of national proportion. At that time the chief object sought for achievement by union labor leaders was the wresting of wholesale concessions from employers in that industry by pressure of threatened strikes.

A small number of manufacturers in the metal trades industry at that time, realizing the futility of resisting single handed, the unjust demands made upon them, allied themselves with one another and covenanted to deal with their labor problems conjointly. To date, this trade organization known as the National Metal Trades Association, has been successful in keeping its many individual members out of labor trouble.

The clay industry finds itself in a situation similar to that in which the metal trades were several decades ago. As a result, a step has been taken by a number of far-sighted manufacturers in bringing into existence the National Clay Products Industries Association. The formation of this association was a recognition of the need for an "open shop" association in the burned clay industry.

The association is patterned identically in scope of movement—namely, national—and in its working plan of accomplishment with that of the National Metal Trades Association. From present reports of progress made, the Association bids well to continue its march of favorable acceptance by clay products manufacturers.

It is understood that the association is not opposed to labor organizations as such, but it does object to their uneconomic principles and especially their misleaders—their financial irresponsibility and the many vicious principles for which they stand, such as the "closed shop;" curtailment of production; the boycott, sympathetic strike, opposition to piece work; the destruction of initiative and the levying of graft.

The association is composed of many leaders in the clay products industry and is founded on good principles. It is filling a real need in the clay industry and merits the support of every manufacturer.

* * *

WHY NOT INVESTIGATE RESULTS OF UNDERDRAINAGE

IT SEEMS that drain tile manufacturers might well consider a plan for research into the uses of its product. As pointed out by W. J. Schlick in this issue, it is unfortunate that information is not available for proving the exact amount of the benefits received for more intensive underdrainage.

Certain of the principles of underdrainage and its relation to crop production are known, tho some of them are not fully understood by any one, and all of them are more or less unknown to a great many. However, it is not known what the proper spacing of drain tile laterals should be for any soil.

A farmer who has an acreage too wet to produce a crop may construct a drainage system with laterals 100 feet apart at a cost of $30.00 per acre. He then raises a good crop and doubles his investment within a few years. However, too frequently he quits at this point, feeling satisfied with the results he has obtained, whereas if intermediate drains and laterals were constructed it would increase still more his crop production. Thus the farmer loses the possibility of greater yield and the drain tile manufacturer does not enjoy the full potential possibility of business from this farmer.

Research and investigations as to proper spacing of laterals and data as to crop production would go a long way toward increasing the use of drain tile. The drain tile manufacturers may feel that they have plenty of business at hand without need for advocating intensive drainage. However, an investigation of this kind would have to cover a long period of years and the drain tile manufacturer must consider the future. There are a large number of agricultural colleges that would be glad to carry on such experiments.

* * *

DEVELOPMENT IN THE CLAY PRODUCTS INDUSTRY

"TRYING TO DO BETTER." This short sentence is the cornerstone of civilization and a milestone on the road to progress; it embodies all the best there is in human nature and embraces the finest and highest qualities in human kind. The present time especially is so saturated with this spirit that we cannot help but find it a great pleasure and sensation to live in this era—to watch the transition of systems and methods and the change which brings with it higher quality and economy in production.

The clay working industry is the

oldest in the world and this very fact has handicapped it due to the natural tendency for humankind to adhere to precedent. There has in the past been too much inclination to follow along the lines of least resistance and operate clay plants along the same general plan that has always been used in the past. Such tactics are not conducive to the growth and development of the industry.

Men who have made successes in other industries are irresistably being attracted to the clay industry and a wonderful development usually accompanies their trail. They have dared to believe that better methods of production exist and have ventured into projects that are innovations in the clay industry. The effect has been a great change in processes and methods with the result that clay ware is now manufactured according to better methods, with greater economy and of higher quality than in any preceding decade.

One of the best evidences of the radical change in manufacturing methods that has come about in the clay industry, is the plant of the Franklin Brick & Tile Co., which is described in this issue. The men who were behind this plant are to be congratulated for their courage in completing a factory for the manufacture of drain tile where former methods were discarded and new ideas incorporated that exist on no other plant of its kind in the country.

Altho the above plant is an important milestone in the progress of the industry, there is still room for further development and it is hoped that the industry does not feel that it has arrived at the zenith of perfection.

* * *

AN OPENING WEDGE TO IMMENSE CONSTRUCTION ACTIVITY

MORE than ordinary significance is attached to the situation in the building trades in Chicago. The combination strike and lock-out which had been in force since May 1, has been called off and workers are back on the job commencing with Monday, June 13 at a wage pending the decision of the arbiter. Federal Judge K. M. Landis was chosen after a list of twenty names, ten suggested by each side, had been submitted and rejected.

According to the agreement signed by both the unions and contractors, the men will receive the wage fixed by Judge Landis in the event that such a wage is fixed before the first pay day. If the new scale has not been announced by the first pay day then the old scale of $1.25 an hour for skilled men and $1.00 for unskilled labor, will be paid until the Judge has decided the issue.

Under the agreement, both sides shall have the right to present any evidence bearing on the subject, but in an effort to effect a speedy settlement the umpire has full authority and power to act and decide all questions involved.

The new wage scale which will be decided by Judge Landis will remain in effect until May 31, 1922 and on February 1, 1922 or before, the umpire shall decide whether the rate shall continue for another year or be changed. It is believed that the resumption of building work thruout Chicago, after six weeks of paralysis, will be a stimulant to business in general. Railroads, building material, house furnishings and innumerable other lines, will take on new life.

It is felt that the calling off of the lock-out and resumption of building will even affect the entire country in general. This is by reason of the fact that the building trades thruout the country are influenced a great deal by the conditions existing in Chicago. It is expected that building tie-ups in all cities will soon be settled and the resumption of building commenced on a large scale everywhere.

* * *

ON REDUCING PRICES BELOW COST

ACCORDING to the Digest of the Common Brick Manufacturers Association, the price of brick has receded thirty-three per cent. from the peak price obtained last year. Moreover, it states that in some instances brick manufacturers have cut the price of their product down below a point where any profit is being made, presumably to stimulate building. Before cutting the price of brick below cost in order to "stimulate building," it might be well to consider a few figures to see just how much the building public is really aided by reduction in brick prices.

For an example, let us take a building costing $20,000 as a basis for figuring. Let us say that the cost of the brick in relation to the whole is eight per cent., which figure is probably high. Then the total cost of the brick is $1,600. At that rate the building contains 80,000 brick at a price per thousand of $20. Now, the brick manufacturer reduces the price of his brick thirty-three per cent. or $6.60, making the new price $13.40. At the new price the brick for the building would cost $1,072 instead of $1,600. This is a reduction in the total cost of the building of 2.6 per cent.,—practically a negligible quantity.

Now let us figure how a reduction in labor cost, the real element entering into the cost of building, commensurate with the reduction in brick prices would affect the total cost of the building. Figuring the labor to be forty per cent. of the total cost of a building, which figure is conservative, then, of the particular building with which we are dealing, $8,000 would represent its labor cost. Reducing the cost of labor thirty-three per cent. will bring the figure down to $5,360, a reduction in the total cost of the building of 13.2 per cent.

From the above figures it is evident that the reduction of brick or tile prices has but little significance in the cost of construction work and that the real hindrance is labor, wherever it has not accepted a reduction in wages. The high cost of money is another factor retarding building. Reducing the price of brick or tile may stimulate the prospective builder to a sufficient degree to urge him to get figures on his building but if the figures are nevertheless high there is still no *real* inducement for him to build.

* * *

IMMEDIATE ACTION ON RAIL RATES WANTED

ALL EYES are focused on July 1, which date is a delicate one when the rail wages are due for a cut. If this cut is accepted by the men, there will be a general demand for freight rate reductions. It is hard to see how this cry can be ignored.

Just as soon as there is a freight rate reduction on building materials, it is certain that a larger volume of building will be the result. There is considerable building being done now, mainly residential in construction, and a surprising amount of it being done at labor costs under existing wage scales. Reduction in rates will give an added impetus.

It is obvious that a reduction in rail rates is in order and what the nation wants is no pussyfooting but a genuine effort to cut rates immediately after the wage cuts are put into effect.

CONSTRUCTION—*the* BRIGHT SPOT *in the* COUNTRY'S ERA *of* DEPRESSION

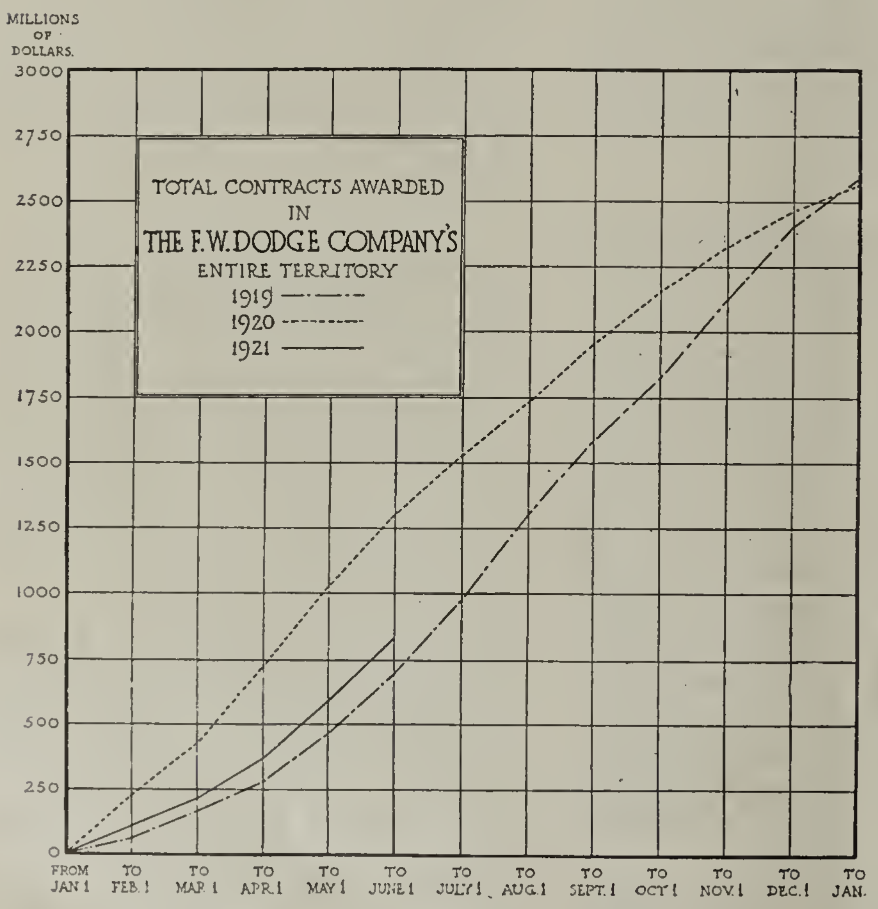
May Building Statistics Show That the Construction Industry is Being Exempted from Industrial Stagnation

IT IS DOUBTFUL that any other industry can show the high volume of business compared with preceding years, as shown thus far this year in the construction industry. In spite of the fact that large industrial and mercantile projects are not going ahead, the first five months of 1921 has made a good showing, which might even be considered excellent in view of the fact that we are in an era of depression.

Little do the units allied to the construction industry realize the excellent position they are in considering the situation in other lines.

Construction activity in May, according to figures published by the F. W. Dodge Co., was 9½ per cent. greater than in April, which was a very good month. Contracts awarded in the twenty-seven northeastern states in the country during May amounted to $242,093,000, compared with $220,886,000 in April.

The increase in activity should have been greater except for the widespread labor troubles. In New England, and thruout the middle west, where wage disputes have been pretty general, building activity kept up during May at about the same rate as in April. Bearing this fact in mind, it is reasonable to believe that with these unfavorable factors removed, as they undoubtedly will be within a short time, activity will be much greater and the situation will be in a much better light than it is now.



To Get the Correct Impression in Comparing 1921 Building Activity with That of 1920 the Fact That Prices Have Been Reduced Considerably Must Be Borne in Mind.

HABITATIONAL BUILDING ACTIVITY LEADS

Residential construction continues to lead all other classes. In May contracts awarded for this class of building amounted to $82,982,000, or 34 per cent. of the total. Public works and utilities amounted to $64,999,000, or 27 per cent. of the total; business building, $29,494,000, or 12 per cent. of the total; educational buildings, $24,462,000, or 10 per cent. of the total; industrial buildings, $20,404,000, or 8 per cent. of the total.

Building activity during the first five months of the year compares very favorably with the same period of previous years. The total investment represented by building contracts let from January 1 to June 1, has amounted to $839,357,000. At the end of January, activity from the first of the year to date was 6 per cent. behind the average for the preceding five years; at the end of February, 11 per cent. behind; at the end of March, 4 per cent. behind; at the end of April 5 per cent. ahead; at the end of May, 11 per cent. ahead.

BUILDING COSTS REDUCED 33 PER CENT.

Altho the accompanying curves showing the total amount of construction in the F. W. Dodge Co.'s territory for the last three years, show that the 1921 total is about one-third less in valuation than that of 1920, it must be remembered that construction costs have been reduced approximately 33 per cent. If the figures were weighted with the above reduction in cost of building considered, the total for the first five months in 1921 would approach very nearly that of 1920.

This is typically a year wherein small project and residence construction predominates. The potential need for this type of construction, however, is enormous and sufficient to make up the decrease in larger projects. The demand for new construction still continues strong. Contemplated new work was reported in May to the amount of $462,785,000, which is 18 per cent. greater than the amount reported in April.

With the above strong construction situation existing under present unfavorable conditions, the outlook is very promising indeed for the coming months when labor difficulties and other matters that now throttle the industry are removed.

* * *

Common Brick Meeting Scheduled for Cleveland, Aug. 25

Plans for the mid-summer meet of the directors of the Common Brick Manufacturers' Association of America were laid at the meeting of the executive committee of the board at Detroit May 26. Cleveland, Ohio, was selected for this most important gathering of the organization. The meeting will be held August 25, and will be given over largely to a review of the results of publicity and advertising during the year, and proposals for extending the campaign next year. As it is obligatory on the part of a director, when appointed to the board, to attend this meeting, it is expected that a full attendance will be had.

The meeting will afford the members a chance to see the headquarters of the National organization, in the Scofield Building, and observe the work being done in detail. While here the opportunity to visit the brick plants in the vicinity of Cleveland will be offered the members, and they will be entertained by local manufacturers.

In conjunction with the Detroit meeting the members were entertained by manufacturers of that city, a feature of the amusements offered being a trip on the yacht Catherine, owned by William Clippert, with dinner at the Yacht Club. Members attending included President C. H. Bryan, Detroit; William Schlake, Chicago; W. N. Carey, Albany; E. S. Barkwill, Cleveland.

* * *

BIG DEMAND *for* COMMON BRICK *in* NEW YORK—PREDICT GENERAL RISE *in* PRICES

CERTAIN current market factors seem to support the growing impression that the eastern construction industry is undergoing a change for the better, says the Dow Service daily building report of June 4, 1921.

Common brick moved out of the wholesale market for the first time this year in volume more closely resembling a normal season's schedule. Of fifty-four arrivals up to Tuesday, fifty-one were sold and by Friday night later arrivals and sales left only three unsold loads in the market. As most of this brick was ridden direct to building operations the week's distribution points to the proportionate rate of actual building construction work now in progress in the various sections of the city.

LARGE DEMAND FOR COMMON BRICK

Brooklyn took twenty-seven, Manhattan, thirteen; Bronx, five; New Jersey, four; Astoria, one and Flushing one. Each barge carries approximately 400,000 brick so that approximately 20,400,000 brick went to actual building sites in the last ten days. None of this brick went into dealers' hands for stock. There is, therefore, still a large unfilled demand for this commodity which is being sold at $14 a thousand, wholesale, base, altho some of the better grades brought $15, to which prices, of course, must be added the cost of handling, haulage and ten per cent. for delivery price on job site.

The Manhattan brick handlers have accepted the wage cut and are now back at work at eighty cents instead of $1 a thousand.

While there are some lines that give every outward appearance of having reached actual price bottoms even to the extent of passing up attractive offerings when made contingent upon further price reductions, there are still some building commodities that show shrinking quotations in this weeks' list.

CUT PRICE OF HYDRATED LIME

In the basic building material department hydrated finishing lime in cloth and paper bags which were reduced by Ohio manufacturers $1 a ton fourteen days ago became effective in local dealers' yards at the week-end. The cut was followed fully by the retailers, current delivered price listing showing an even dollar's reduction in hydrated finishing limes and a cut of $1.50 in common hydrated limes which figure also represents the cut made by the producers. These price cuts, while announced two weeks ago by the manufacturers became effective in the New York retail yards simultaneously with the first arrival of the newly priced material at the week end.

Reflecting the great slump in the spruce market, wood lath is $1.50 a thousand lower in price than a week ago making the local delivered price now $10.50. Less than a year ago this material was retailing at $20 a thousand. Common Hudson brick was then selling at $25 a thousand, wholesale, or approximately $31 delivered on the job whereas today it is selling at $14 wholesale, or approximately $20.50 delivered, depending upon the length of haul.

COPPER AND LINSEED OIL PRICES ADVANCE

An advance of ten per cent. in any commodity at this time is worthy of comment and particularly so when the commodity in question stands up in the building material market as almost the only one in which a condition of over-supply exists. Two weeks ago copper could be bought for June-July delivery at 12½ cents. Today the leading producers quote 13¾ cents. Linseed oil, reflecting paints and protective materials could be purchased on March 19 at seventy-three cents a gallon in lots of over five barrels each. Today it is stiff at eighty cents.

Several lumber manufacturers have announced an advance in verticle grain flooring and yellow pine flat grain flooring. Both yellow pine and Douglas fir dimension and finished stock are stronger in price. North Carolina pine flooring and roofers are also strengthening in the wholesale market where certain items of rough lumber are headed for a rise. This condition is becoming more generally true also of the hardwood market, notably such as FAS red and sap birch, quartered and plain oak and quartered and plain red gum. Finished cypress is pressing for a higher price. It is said that a higher price before long for Tonawanda white pine would not surprise the market.

GENERAL RISE COMING

While these influences have not yet been felt in the New York retail lumber market they are, nevertheless, crowding in and the slight turn in the building situation for the better has emphasized this tendency somewhat, just as it is being felt by leaders in the electrical supply manufacturing market who feel that some day in the near future there will be a general rise in prices whereupon some investing builders will scramble into the market for supplies and in the stampede for deliveries will find themselves counterbidding for delivery rather than for the actual materials they require.

Another factor looked upon by the building industry as significant is the word-of-mouth reports from representatives of structural steel plants to the effect that they are getting an increasing number of small orders of 100 tons or less. The reports turned in to the Bridge Builders' and Structural Society in recent months show the gradual trend and supports these statements of increasing business. The percentage of structural steel shop capacity under contract in January was eighteen; in February, fourteen; in March, twenty-nine; in April, thirty-one and May will probably show a continuation of this growth of building demand, because in the absence of railroad orders, most of this volume is represented by building requirements.

Brick Again Coming Into N. Y. Market

Common brick is once more flowing into the eastern building material markets with the settling of the strike of brick barge captains. The barge captains have agreed to accept a reduction in pay to $135. The strike of the brick handlers in Brooklyn has been settled with the men accepting a wage cut from $1 to eighty cents a thousand. In Manhattan, however, the brick handlers are still holding out for the $1 and substitute crews are unloading the barges.

It is claimed that one of the things which has held back construction more than high prices or possibly any other factor is the investigation into the alleged building combinations restraining trade and fixing prices. In view of these things the prospective builder stayed out of the market entirely. When he does come back there will be some of the old firms missing and no new ones to step in immediately to fill the gap when it is needed.

The outcome as seen by building material manufacturers and experienced investors will be the narrowing of the building material distributing market instead of the widening which would mean bigger and keener competition. A certain amount of construction must be accomplished every year, if it is not done it means that it is being held in abeyance and will have to be done later.

The tide of building construction is at its lowest ebb right now and it is inevitable that the waters will soon begin to rise and the public, which is waiting for the water to go out still more, will suddenly wake up to find itself engulfed with the rising tide of construction with its resulting rise in building material prices.

* * *

A. C. S. Selects St. Louis as 1922 Meeting Place

With a view to holding its meeting in a centrally located place and in a city of importance in the ceramic industry, the American Ceramic Society has decided to hold its 1922 convention in St. Louis, Mo., February 27 to March 2, 1922. The importance of St. Louis as an industrial center is being more and more appreciated and the refractories and heavy clay products branch of the industry are well represented, and enamel ware, terra cotta and glass plants are also established in goodly numbers.

The large and commodious Hotel Statler will be the headquarters of the society and splendid facilities for the holding of the various divisional meetings as well as the banquet rooms and balls are afforded. The date of the meeting has been advanced somewhat over the customary time due to the fact that St. Louis is crowded with buyers in February and it was thought best not to add to congested conditions with the national convention.

Tho easterners will have a slight distance farther to travel than usual, yet those from the West will have considerably farther to travel, while St. Louis almost equally divides the North and South. The American Ceramic Society has never gone backward and a record breaking attendance is expected.

* * *

Common Brick Down One-Third from Peak

According to the "Monthly Digest" of conditions in the common brick industry, published June 1, 1921, by the Common Brick Manufacturers' Association, there has taken place in the common brick industry of the country an average price reduction from the peak, of thirty-three per cent. The average price recorded by sixty per cent. of the industry when prices were highest last year was $24. This figure has steadily declined until now the average price is $16.11.

Chicago, which usually sells brick lower than any other city, has been passed by certain districts in Mississippi and Georgia, where keen competition has forced the price down to as low as $9 per thousand in some instances. Reports are somewhat more encouraging with a little more business recorded, more plants opening up and stocks being appreciably reduced.

Activities in Los Angeles, Cal., are on the increase and the April shipments of common brick for local consumption were the largest in the history of the plants in that city. The southeastern states from Mississippi, Louisiana, up into Texas and Oklahoma are experiencing a fair amount of business as are the Great Lakes cities and New England.

Tho the reduction in the price of common brick from the peak has been very nearly a third, yet it has had but little effect on a revival of building. A reduction of a few dollars in the price of brick has practically no effect on the cost of a building. This can readily be appreciated when it is known that the cost of brick in relation to the cost of the building ranges from approximately five to fourteen per cent., with an average for all types of ten per cent.

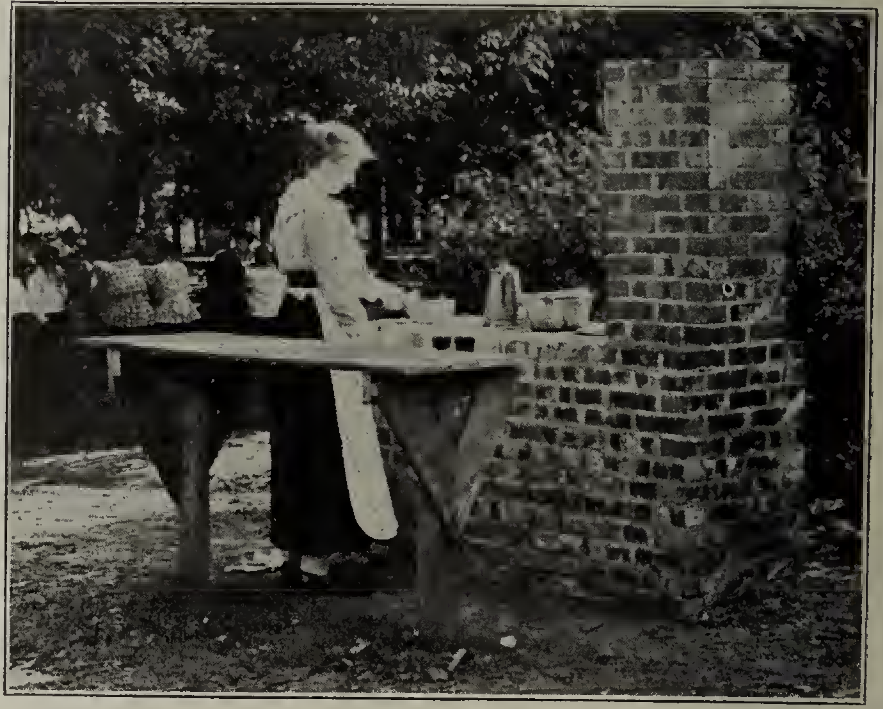
Wherever a reduction in the building trades wage scale has been effected it has usually been followed to a certain extent by a resumption of building, while cities like Cleveland and Chicago, where labor remains obstinate, are in the midst of lockouts and strikes with practically all work stopped. Freight rates have also helped to retard building activity, increases in rates on brick since 1915 range from 100 to 500 per cent.

* * *

Brick Cook Stoves as Park Accessories

In the city parks of Topeka, Kas., brick stoves constructed similar to a kitchen range, with an iron four hole top, grate and ashpit are available for persons who desire to cook picnic suppers outdoors.

The stoves or fireplaces are built of brick and mortar and are 2 ft. wide and 2½ ft. in height. One end is fitted with a brick chimney 6 ft. in height from the ground level. The top is equipped with two steel plates, each with two holes and iron covers. In order to make the stoves vandal proof the changing around of the conveniences is difficult and original ideas for fire building and cooking which might be detrimental to the stove are not so apt to be indulged in. A table is provided along one side of the stove to take the place of a kitchen table and wood is supplied daily to each stove as well as water which is obtained from nearby hydrants. Before the year is over seventeen or more stoves will be in use in the Topeka parks.



An Idea Well Worth Copying Is That of Installing Brick Fire-Places in the Public Parks as Illustrated Above.

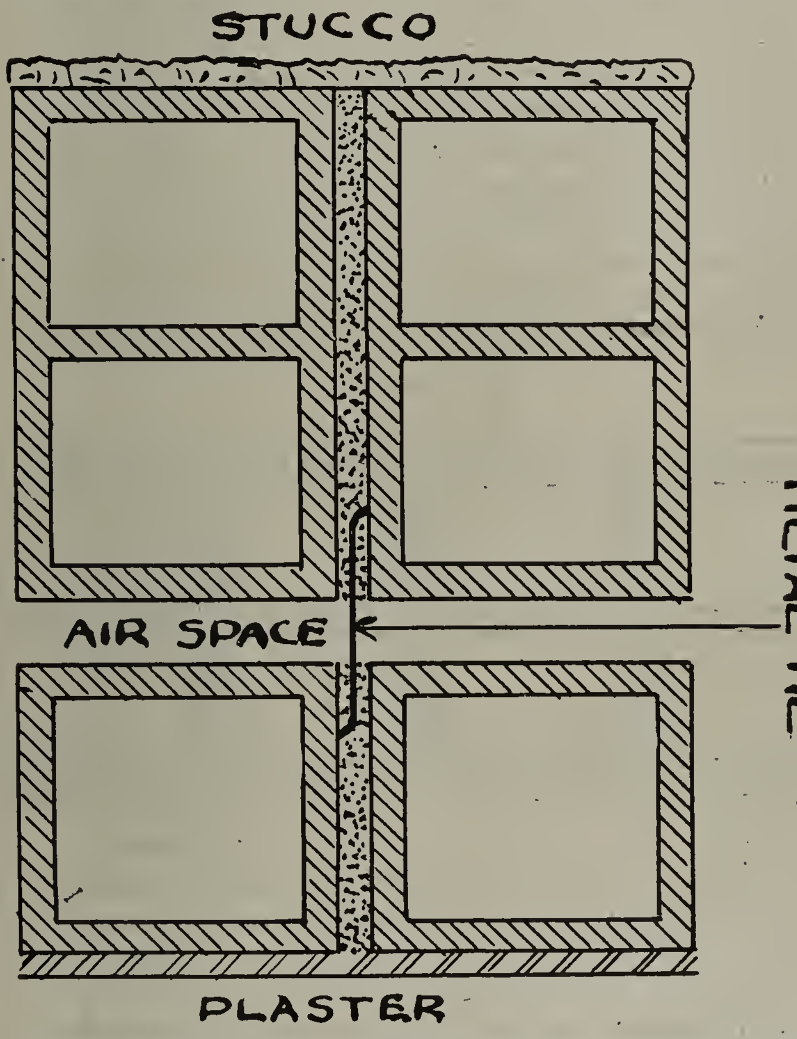
BUILDERS' MISUSE *of* TILE MUST *be* PREVENTED

Improper Use of Hollow Building Tile Gave Product a "Black Eye" in Community—Success of Tile Dependent Upon Education of Public to Its Use

By Earl A. Bickel

Postville (Ia.) Clay Products Co.

IN ONE of the live, small cities of the middle west a certain prominent and wealthy citizen built a home a year ago. While under construction it attracted the attention of the whole population, for several reasons. It was more pretentious than any other residence going up at the time; it was of beautiful design and it was being built of hollow tile, the first residence in the city to be constructed of this material. When the residence was completed it was universally proclaimed a handsome addition to the homes of the city, and citizens when taking strangers out for a drive used to like to go by it and point out its beauties.



The Correct Principle of the Hollow Tile Wall Is Clearly Shown Here. The Air Space Insures a Warm and Dry Home.

This was a year ago. Today the whole city knows that the residence has been sold by its owner because they couldn't keep warm in it, and that the plaster inside is streaked and crumbling because it is so damp. They shake their heads and say: "You see hollow tile may be all right for basements, but for the whole house it is no good. Funny the architect didn't know that and keep Mr. B. from wasting his $35,000."

Every clay products man knows that the criticism is not justified. The architect, not the material he used, is to blame for the failure. But the damage has been done, and it is going to be a long hard pull to live down the black eye that hollow tile has been given in that city. There is, however, this comfort to be gained from the situation. The misuse of hollow tile is so glaringly demonstrated in the case of this house that it must bring home to every clay products man who is manufacturing and selling standard block the need to educate the building profession up to the proper use of their products.

PROPER USE OF HOLLOW TILE VITAL

The manufacturers of patented hollow block are not hampered by this ignorance of architects and contractors to anything like the same degree as the standard block men, because of the very nature of their product. They have a specialty and are able to specify the scientific use of it and do so specify. The standard block manufacturers must learn from such mistakes as this architect made that they too must see that architects, contractors and builders use their block correctly and scientifically.

The first principle we must instill is that a continuous tile wall may be all right when used in buildings having no artificial heat, but never should be used in a residence or other heated building as it was in the case of this home.

AIR MAKES BEST INSULATION

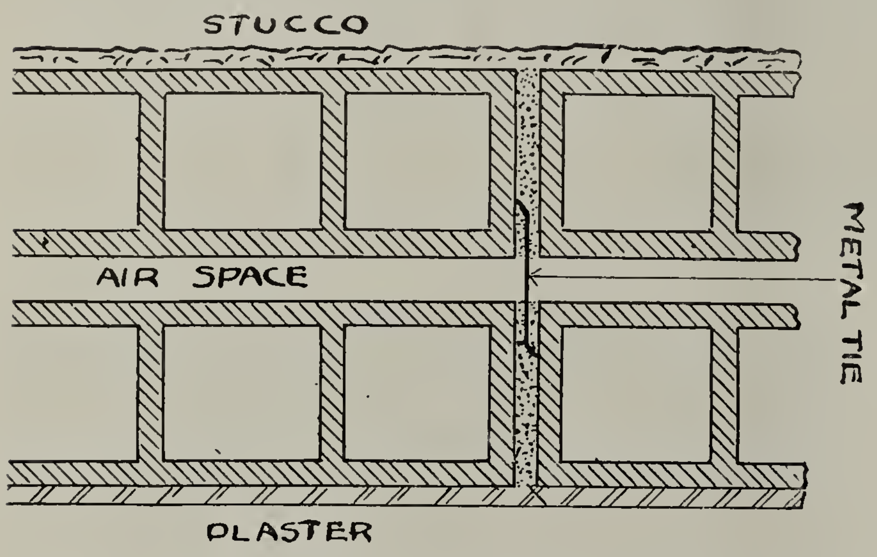
The walls were built of the standard 5x8x12 hollow block with a stucco finish outside and plastered directly on the block on the inside. No air space preventing it, the cold traveled thru the stucco to plaster by induction, for we all know, all except the architects whom we have failed to educate, that burnt clay walls in themselves are not good insulators. We also know that there is no better insulator than just plain air.

Investigation of this house to determine why it was so cold, tho the heating plant was of the finest and best, showed that the inside of the walls were so cold that the heat in travelling up from the radiators to the ceiling and then down along the walls changed temperature quickly. The difference between this chilled air next to the wall and the warm air farther in was so great that it produced a current of air near the wall strong enough so that it was plainly felt when one's hand was held near the wall.

POOR INSULATION CAUSE OF DAMP WALLS

The crumbling of the plaster and the streaks in the wall were found to be due to the same cause, namely, that of poor insulation and the easy passage because of it of cold air from the outside stucco to the inside plaster. The walls had become damp because the warm inner air was condensed when chilled by contact with the cold inner surface. It is just like what happens when a glass of ice water is set in a warm room. The warm air striking the cold glass condenses and stands as moisture on the outside of the glass. The beautifully decorated walls of this house have become streaked and the plaster is crumbling because the walls have been "sweating," to use the common expression, just as the glass sweats.

How different would have been the outcome if the architect had known or had been taught by the clay products man who sold the block for the house the need of a continuous air space to insure proper insulation. The air space was entirely possible with the standard size of block. No matter how thick the wall, standard size block may be made to give satisfactory service. It is merely a matter of making right combinations in order to build a wall of any practicable thickness.



Another Type of Hollow Tile Wall with Air Space. The Metal Tie Bonds the Two Wall Sections Together and Insures Stability.

AIR SPACE IN WALL NECESSARY

The block can be laid and tied together with metal ties so that an air space of one inch or more will separate the two walls. The regular 5x8x12 block in the case of this house could have been combined with the 4x5x12 block or the 4x12x12 block could have been laid up on the four-inch side or the 4x8x12 laid up on the four inch side. Thinner block of the 3x12x12 and 2x12x12 sizes could have been laid up and tied into the larger sized block and thus have made a satisfactory wall. In bungalows I have seen the two walls laid up of 4x12x12 and tied together in a substantial manner. Thinner walls are practicable if they are properly tied and of good quality. While clay products men naturally would hesitate to advocate the use of lumber where tile can be made to answer the purpose, yet, as is well-known, proper insulation can be obtained by the use of fur strips and lath instead of laying plaster directly on the block. It would have been far better for the clay products trade if the architect of this house had been advised to do this instead of having permitted him to make a gross misuse of the solid wall.

CLAY PRODUCTS DESTINED TO REPLACE LUMBER

For economic reasons clay products are destined to take the place of lumber more and more as the years pass. But why wait for the market to be thrust upon us? Why not push competition now, and the best way to push it, as it seems to me, and the only way to obtain for hollow tile the high place it should have as a building material is to see that it is used properly. It is worse than no trade to allow the building fraternity to so misuse the product that the result is to discourage others from building with hollow tile.

It seems to me that the important thing now is to educate the builders by insisting that hollow block when used shall be used according to proper specifications. In these slack times, the opportunity is particularly opportune to push competition in this way, but for success the movement must be general among the clay products producers.

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Pushing Hollow Tile for Farm Building

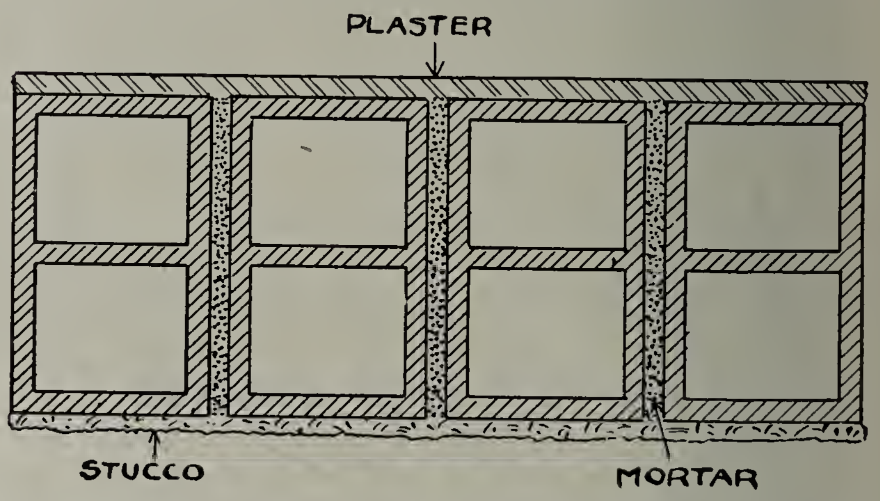
The annual business meeting of the Permanent Buildings Society was held in Des Moines, Ia., Wednesday, June 1.

Vice-president H. I. Moore, of Ft. Dodge, Ia., presided and in calling the meeting to order spoke feelingly of the untimely death of the president of the organization C. C. Carhart. On motion of M. T. Straight of Adel, the secretary, C. B. Platt, was instructed to draw suitable resolutions of condolence to be forwarded to the family of the departed leader.

A nomination committee consisting of Messrs. Galvin, of Rockford, Reaver of Eldora, and Morgan of Knoxville, suggested the following officers for the coming year who upon motion were duly elected. President H. I. Moore, Ft. Dodge; vice-president W. J. Goodwin, Des Moines; executive committee Harry Tramp, Creston; H. S. Vincent, Ft. Dodge; H. R. Straight, Adel, and George E. Winters, Mason City.

Secretary C. B. Platt in making his annual report exhibited a colored miniature set of model farm buildings. The society is planning to use these miniature sets to do considerable advertising of hollow tile construction for the farm. The sets which are to be made of card board are to be distributed in large quantities thru farm paper advertising and thru the members of the society. It is felt that the setting up of these models on floors and table by the children in Iowa farm homes will be a telling advertisement for hollow tile.

A survey of the business situation by the members present at the meeting showed that with a few exceptions all plants represented were operating. Six plants were reported to be running nine hours a day, one eight hours a day and seven ten hours a day. Production, however is materially curtailed. Wages are running from thirty to forty-five cents per hour.



An Absolutely Wrong Way of Building a Residence Wall. Cold and Moisture Can Easily Pass Thru the Mortar Joints to the Plaster on the Inside.

Arkansas Largest Producer of Bauxite

According to figures collected by the United States Geological Survey, Department of the Interior, 521,308 long tons of bauxite, valued at $3,247,345, were produced in the United States in 1920, as compared with 376,566 long tons, valued at $2,201,747, in 1919. The mines in Saline and Pulaski Counties, Ark., produced 481,279 long tons, or ninety-two per cent. of the total 1920 output. Georgia ranked second, Alabama third, and Tennessee fourth in production, the combined output of these three states being 40,029 long tons. The bauxite imported in 1920 came mostly from South America and France and amounted in 1920 to 42,895 long tons as compared with 6,082 long tons the year previous.

MAKE 12 MILLION ACRES PRODUCTIVE *by* DRAINAGE

Drainage Engineer Says Iowa Farm Drainage Not Half Completed—Value of Land Doubled by Drainage—Advises Effective Method of Laying Tile

By W. J. Schlick

Drainage Engineer, Iowa Engineering Experiment Station

IF THE FUTURE may be predicted from the past, no human is far sighted enough to justly claim to be able to state in any definite terms the ultimate development of farm drainage in Iowa. All any of us can do is to give expression to his ideas as to the general trend of this development during a short period of the near future. There are certain facts and certain tendencies which in conjunction with a realization of present day needs and problems, may be used as a basis for forming some idea of the lines which this development will follow, and it is upon this basis that this discussion is given.

You men, very naturally and rightly are interested in this development as it will affect the amount of drain tile which it will require. As no definite answer is possible to the question as to the ultimate development of farm drainage, so the answer to the question as to what amounts of tile will be needed yearly and ultimately is equally an impossibility. However, I believe that a careful consideration of the trend of this development will be of value to you in planning and furthering your business in the years to come.

DRAINAGE MADE 12 MILLION ACRES PRODUCTIVE

It will be of considerable assistance in the consideration of this subject if we can form some general idea of the drainage work which has been done in this state and the relationship of what has been done to what probably will be done. I recently had occasion to attempt to express in intelligible terms the economic importance of the drainage work already done in the state. The result was rather disappointing because the totals were so large as to convey only one idea, that of immensity.

What would Iowa be today if no drainage work had been done? A great area of ten or twelve million acres, in twenty-five counties, bounded by a line extending northeast from Des Moines thru Eldora, Charles City and on to the Minnesota line and another line northwest from Des Moines thru Adel, Carroll, Cherokee and Sibley, would be an almost unproductive swampy waste. To this may be added probably another five million acres of bottom land along the Missouri and Mississippi rivers and the smaller streams of the State.

IMPORTANCE OF DRAINAGE WORK IMPRESSIVE

One-half of the good agricultural land of the state would be valueless except as a breeding ground for ducks and mosquitoes if drainage had not changed it into an improved and cultivated area which produces probably three-quarters of a billion of dollars worth of crops per year. There is no available information by which to check such an estimate; the one made may be considerably in error either way. But that is unimportant in this connection, because the correct total, if it were ever determined will be so large that the opportunity for and importance of drainage work will be truly impressive.

In most of this vast area that has been made productive thru the construction of drainage works, the increased productivity has been due to the installation of the farm drainage units made possible by the construction of the larger drains of the organized County drainage districts.

FARM DRAINAGE NOT MORE THAN HALF COMPLETED

Not all the wet lands in these various areas have been provided with any drainage, and in an ever increasing number of instances the existing drains are being reconstructed so as to make possible more thoro drainage of the individual tracts and farms. Even on the present-day appreciation of the needs for farm drainage it seems safe to say that the farm drainage is not more than half completed; this is probably too high an estimate and at that it takes no consideration of the demands of the future.

When all this has been said, only one idea has been presented—the immensity of the farm drainage problem in Iowa; it shows that the total is large but it affords no comprehensible basis for evaluating this huge total.

The future farm drainage development certainly will be along two lines, extension to areas not now drained and more intensive drainage of all underdrained areas.

NO ESTIMATE OF FUTURE DEVELOPMENT POSSIBLE

Our consideration so far has been confined to those lands that were too wet to produce the crops they were potentially capable of producing. The underdrainage of the future will be extended to many areas not now generally considered to require drainage, to areas now considered to be deficient in soil moisture and to areas of sloping or gently rolling land from which the surface runoff now erodes the rich surface layer almost as fast, and in some cases faster, than the farmer can produce it thru careful methods of handling.

Since we lack reliable information upon which to base any definite evaluation of the work which has been done, we certainly can make no accurate or reliable estimate, or even "guesstimate" of either the rate or future development or the time when it shall reach its ultimate stage.

DEVELOPMENT MAY NEVER BE COMPLETED

There is no reason now to believe that development, in farm drainage will ever be completed, any more than to believe that of any other logical and worth while development. We can only consider the opportunities and problems in connection with the tendencies apparent in the development today; then if you can guess how rapidly the unsolved problems can be solved and

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Editor's Note—This paper was read at the convention of the Iowa Clay Products Association at Des Moines, February 24, 1921.

the general landowning public be brought to a realization of the needs for drainage and of its benefits, you may be able to form some idea as to the status which this development will have reached at some future date.

Let us now consider this subject in connection with the problems involved in the development of farm drainage, the probability of the solution of these problems and the effect of these solutions upon the character and amount of drainage construction. The logical design of a truly economical farm drainage system requires the solution of two main problems; first, the relationship between the degree of thoroness of drainage and the increase in crop production; and second, the design of a system which will provide the required degree of thoroness of drainage under the physical conditions prevailing.

DRAINS INCREASE PRODUCTIVITY ENORMOUSLY

It is well understood that if the farm drainage system is constructed with laterals four feet deep and one hundred feet apart that the wet land so drained will produce large crops. It is certain that if intermediate lines were installed so that the spacing be reduced to fifty feet that there would be a second increase in the productivity. It is not known, however, what the increase would have been if the drains had been spaced 150 feet apart, or what relationship exists between the cost of the intermediate lines and the value of the second increase in production.

The returns commonly received thru the construction of the system first described are so large that they are today one of greatest retarders of drainage development. Such systems have been so successful and have paid such enormous returns on the amount invested, that many land owners believe that by using that system they are securing the best and most economical system possible. They are very sure they know this, and if not quite sure of this point they are unwilling to adopt any more intensive systems because they believe the extra expenditure will not bring as large returns as did the original investment. In other words many men look with disfavor upon any drainage investment that will not return them at least one hundred per cent. in immediate profits.

VALUE OF LAND DOUBLED

Consider the case of a man who has forty acres that in nearly all years are too wet to produce a crop. So far as production is concerned such land is a liability rather than an asset, because he usually will be so optimistic that he will attempt to raise a crop in it and so lose both his work and his seed in all but the most favorable years. He constructs an underdrainage system with laterals 100 feet apart at a cost of $50 per acre. He then raises fifty bushels of corn per acre every year, which at present prices would almost repay the investment in two years with no increase in cost of producing the crop. In addition to this he has increased the value of this land $100 to $200 per acre. Will an equal investment in a tile plant pay equal returns?

VALUE OF SECOND INSTALLATION

After a couple of seasons he installs intermediate drains so that his' laterals are only fifty feet apart, at a cost of $40 per acre, and then raises sixty bushels of corn per acre. The increase in production, with no increase in the cost of producing the crop will pay the interest on the second investment and retire the principal in not to exceed fifteen years. This second investment probably will not increase the value of the farm in the same proportion as did the first, but if the increase in the value of the land is only $40 per acre, he donates this to himself in the fifteen year period without effort or cost and after that it pays him $5 or 12½ per cent., annually. The difference between the returns from these two investments is large, but would not an investment normally be considered desirable if it would cause some decrease in the cost of conducting the business and still pay interest upon itself and a 6½ per cent. profit? I believe that it would.

LAND OWNER CAN EASILY BORROW MONEY

Unfortunately information is not available for proving the exact amount of the benefits from more intensive underdrainage. However, if landowners could be brought to a full realization of this part of the problem, they themselves would soon collect and spread all the information necessary to hasten this phase of farm drainage development. Many owners will say that they do not have the capital to make this additional investment. This obligation seems to be answered by the fact that if there is any money for loans at low rates of interest, the owner who wishes to install drains has first chance at it.

Certain of the principles of underdrainage and its relation to crop production are known, tho some of them are not fully understood by anyone and all of them are more or less unknown to a great many. A short discussion of these will help in a fuller appreciation of the future development of underdrainage.

DRAINS SHOULD BE LAID FOUR FEET DEEP

Our common farm crops can obtain no plant food from a saturated soil. Agriculturists have determined that such crops should have a food zone about four feet deep for optimum production, other things being considered. This means that the upper plane of the ground water should be kept four feet below the surface. Other investigations have shown that the plant secures all its food from the substances dissolved in the capillary moisture, which passes thru, and is held in the soil by the same force which causes the oil to pass up the wick of an oil lamp, and that this source of supply will be sufficient, so far as moisture is concerned, if the plane of the ground water is held to a depth of four feet. It is also known that the amount of this capillary, or food supplying, form of soil moisture and the rate and extent of its movement, increases as the size of the individual soil grains decreases.

REMOVING SURPLUS MOISTURE AIDS CROPS

This incomplete statement of the fundamental principles of the relation of underdrainage to crop production leads to consideration of two very important factors not yet discussed. One of these deals with the surplus moisture which may be removed thru underdrains and the other with a much misunderstood phase of the problem.

The removal of the surplus moisture makes possible all the beneficial actions which are directly responsible for the increase in crop production that follows drainage. Our ordinary farm crops actually starve for lack of moisture and food in a saturated soil. A wet soil requires more heat to raise it to the temperature favorable for plant growth than a dry one. These two facts explain in a general way why a drained field produces larger crops than an undrained one and why it has a longer growing season.

CAPILLARY ATTRACTION BRINGS PLANTS MOISTURE

The statements already made really explain the misunderstood and paradoxical statement that the installation of underdrains to carry off surplus moisture increases the amount of moisture available for plant use. To many this sounds like saying that removing moisture from a field makes it wetter. The explanation of this statement is contained in the two previous statements that plants can only obtain food from the capillary moisture and that the removal of the surplus moisture, besides making possible the presence of capillary moisture, tends to produce changes in the physical character of the soil, so as to increase its capacity for capillary moisture.

A few years ago I visited a farm which was considered to be thoroly underdrained with laterals about a hundred feet apart. In answer to some questions the owner made statements which entirely corroborated the accuracy of the principles stated above. His land, and that of his neighbor, was too wet only in wet years; its character is shown by the fact that it commanded a price of $85 per acre about twenty years ago.

CAN START TWO WEEKS SOONER

The owner stated that he raised larger crops than did his neighbor on similar land just over the fence, and that they used about the same method of cultivation; that he could start work two weeks earlier in the spring and lost only a fraction as much time after rains. His answer as to the crops from the two farms in dry years was a very emphatic statement that his drains would be a good investment on the basis of the benefits during dry years alone. As this phase of the question becomes more widely understood it will open up a big new field far from drainage work.

We have considered very briefly in the preceding part some of the fundamental principles of the relationship of underdrainage to crop production, expressing the benefits in terms of thoroness of drainage. What general principles of design must be considered in order that the system will produce these optimum conditions? We know that the amount of surplus moisture to be removed will depend upon the topography of the underdrained and surrounding areas; that the rate of the movement thru the soil to the drain will depend upon both the character of the soil and the distance and slope of the moving water.

We know that a given soil under certain rainfall and topographic conditions will be drained more thoroly when the tile lines are placed closer together; and that the depth at which the drains are placed controls the depth of the zone of soil that is free from surplus moisture. Given certain conditions of rainfall, topography and thoroness of drainage, we know that the spacing of the laterals must be less in a "close" soil than in a more open soil.

PROPER SPACING OF LATERALS

We know that if the spacing of the laterals be reduced in any particular field that the maximum amount of moisture which will collect in the drains per unit of time will be increased thus requiring lines of greater capacity. If the amount of water removed per unit of time is greater, the amount of time that the field is too wet for maximum production is reduced and the returns from a given amount of seed and cultivation is increased.

A few years ago I saw a field, that would commonly be described as "rather low, and wet," that had been served for fifteen years by an underdrainage system with laterals about one hundred feet apart and two and a half feet deep. During that period this field produced a partial crop during the drier years. Notice that the maximum depth of soil available for the support of plant life was two and a half feet, which means that the average depth of soil free from surplus moisture was much less than this.

DRAINS PAY FOR THEMSELVES IN THREE YEARS

This farm was sold; the new owner disregarded the existing systems of drains, except where it was feasible to recover the tile, and installed a system with laterals one hundred feet apart and four feet deep. He stated that the increase in crop production, on the basis of the first year, would pay for the new drains in not more than three years. For fifteen years this field was a sure proof to neighboring land owners that underdrainage would not pay. The new owner's statements as to the results from his new system will be of untold value in that community.

Even a casual consideration of the principles stated will serve to show anyone who will accept them that the design of a truly economical underdrainage system is not simply a matter of planning for laterals one hundred feet apart and four feet deep regardless of other conditions. It is a general problem whose proper solution must be based upon the solution of the many problems of its component parts. Our present knowledge is not sufficient to permit of an accurate determination of the answer to some of these questions, or to accurately evaluate some of these relationships.

PUBLIC MUST BE EDUCATED

The future of farm drainage, and the rate of its development, depends upon two things, the solution of these problems and the education of the general public as to the correctness and application of these principles to their own problems. When these two things have been accomplished the annual amount of farm drainage work will be greater than at present with a correspondingly greater production of essential food products.

The solution of these investigational and educational problems is a question of money, men and time, because they will be solved. It is probable, of course, that the solution of the problems now recognized will bring others to our attention but these too can and will be solved. The Iowa Engineering Experiment Station as well as other agencies, is studying them, but the lack of funds prevents as rapid progress as is desirable; if sufficient funds were available, it would be possible to employ or train qualified men and there are twelve months in each year during which they may be studied.

RAPID PROGRESS HAS BEEN MADE

These discussions of problems and principles are an expression of the tendencies in this development. We have made rapid progress, and there is no reason to doubt that this progress will continue. There is an ever increasing tendency toward more complete understanding and appreciation of farm drainage, and each advancement in a locality is a most valuable object lesson to others; in this way alone, the advancement must be rapid.

We are confronted at present with the condition of high prices for farm lands and low prices for farm products. This condition, which at present is greatly delaying all forms of drainage construction, must eventually compel a rapid advance in farm drainage construction.

STABILIZATION OF VALUES NECESSARY

It seems certain that there must be changes that will tend to bring the value of farm products into a more stable and equitable relationship to the values of farm lands; and that this change must come primarily thru increased production and decreased unit cost of production rather than thru decreased land values or increased unit prices of farm products. In a great many instances more thoro underdrainage, thru more extensive and more intensive tile drainage systems, is an essential step in both increasing the amount, and decreasing the unit cost, of production.

It seems wholly improbable that the unit prices of farm products can be held at a level sufficiently high to pay adequate returns on our high priced land unless any increase in unit prices is accompanied by a large increase in the unit amount, and a corresponding decrease in the unit cost, of production.

QUALITY OF DRAIN TILE WILL BE BETTER

It seems certain that these conditions which now tend to prevent farm drainage construction, soon will be recognized and appreciated so fully that farm drainage construction will proceed more rapidly than ever before. It is possible that borrowed capital will be required for much of this work, but fortunately our banks quite generally give preference to loans made to land owners who wish to install drainage systems.

There is one phase of this development in which you men will be vitally interested, that has not been mentioned. This is the development in methods of manufacture of the materials required for farm drainage construction, a general raising of the quality of drain tile produced. There is no more reason to believe that there can, or will be, no development along this line than to believe that our knowledge of the use of these materials will not increase.

It has become common to specify both the quality of the tile to be used in the large drains of our county districts, and the methods of inspection and testing necessary to determine whether the product submitted under those specifications has the required qualities. None of you will contend that the general quality of drain tile used today is not higher than that common ten years ago.

GOOD GRADE OF WARE BEING REQUIRED

So long as the product being delivered is considered by the purchaser to be all that he requires the incentive for producing a product of higher quality is indeed small. When the purchaser specifies higher qualities and makes the tests and inspections necessary to determine whether the material delivered meets those specifications, and some factory's product is found to be deficient, every manufacturer immediately begins to study his methods in order to insure that his product will be of the required quality.

Purchase of drain tile under standard and uniform quality specifications, and careful tests by standard and uniform methods are fair to every one, and of value to every one, because each manufacturer then has a knowledge of his product and the points in which it may be and should be improved.

Drain tile of the sizes commonly used in farm drainage work have never been purchased under any but very general and incomplete quality specifications and have been subjected to nothing more than a casual visual inspection. Just because the quality has generally been satisfactory, so far as the purchaser knows is no reason why the quality of this part of the product cannot, and should not, be improved.

TILE FOR ROADS ARE ALL TESTED

The procedure of purchasing and inspecting tile of small sizes for road drains during the past season is the first instance of its kind in Iowa. I am not familiar with the detail results of those tests, or with the plants whose product has been acceptable or has been found deficient in some respect. It seems certain, however, that those tests must be of considerable value in raising the general quality of the product thru pointing out those points in which methods of manufacture must be improved in order to raise the quality of the product. There seems to be no reason why the careful and conscientious manufacturer should not benefit from such procedure of purchase and test.

The farm drainage system quite often is considered as a permanent and completed improvement. So far, the rapid advancement of our knowledge of the principles and design of underdrainage systems, and the appreciation and realization of the benefits resulting from such construction, has been so rapid that the frequent reconstruction and extension of the drainage system has been economically advisable. This will be more true of the next ten years than during the past.

ALERT MANUFACTURER WILL HAVE ADVANTAGE

Few of our former drainage systems will be wholly reconstructed, but the lateral system will be extended to serve additional lands and additonal lines added to provide more thoro drainage, all of which will require larger, or additional, mains and submains to provide the larger capacity then required.

As our knowledge increases, the construction of more intensive and consequently more costly, systems, that will have a longer life of economic usefulness, the demand for materials of a higher quality will be greater, and the tendency will be to make such specifications and tests as will insure this higher quality. Thus it seems that the alert and progressive manufacturer will have just as much advantage in the future as today, and that the successful plants must produce a product of higher quality. This is not a reflection upon present day methods of manufacture or products, but an expression of an inevitable development that will accompany other developments in farm drainage design and construction.

The farm drainage of the future will be accomplished thru the installation of more extensive and more intensive systems, that are more logically and efficiently designed and are constructed of better materials, and that will result in greatly increased production of essential food products. This development will extend over a long period and may be rapid or slow, but will be continuous.

STANDARDIZATION *of* BUILDING CODES *and* MATERIALS *to* LOWER CONSTRUCTION COSTS

AN EFFORT to revive building and cheapen construction is being made by the Harding administration. The object sought is the standardization of building codes, and building materials so far as possible and establish uniformity of methods and processes in building construction. $185,000 is to be transferred from the Bureau of Census to the Bureau of Standards and the latter will begin the work.

A bill introduced by Senator Calder, which has the support of Secretary of Commerce Hoover, provides for the creation of a permanent division of construction and housing in the Bureau of Standards, and is now being considered by the Senate. The main purpose of the division will be to gather statistical, practical and scientific information and distribute it among the people and to cooperate with the men in the various branches of the construction industry in regard to construction problems that the cost of construction may be reduced to a minimum.

STANDARDIZATION OF MATERIAL AND METHODS

The department of commerce has prepared a statement in which the possibilities of the division's work are described. The statement reads as follows:

"Standardization of structural units and material has already been undertaken in England, but it is in its infancy in this country. Standardization does not contemplate the greater uniformity in the exterior or in the interior arrangement of buildings, but rather the adoption of uniform methods and the elimination of useless types and sizes of parts, the adoption of interchangeabilty of parts, as well as the adoption of clear and uniform definitions of terminology. Standardization should be considered as an aim or disposition of the industries to co-ordinate their work rather than as a definition of perfection.

"It is urged that economy in material may be effected at an early date thru the revision of building codes of many municipalities, and that such a revision toward uniformity may be brought about without impairing the usefulness, safety, or durability of the structures. Flagrant variations now existing as to thicknesses of walls, floor loads, allowable stresses on timber, concrete, and steel, if eliminated, might save, according to some authorities, from 5 to 20 per cent. in the use of some of the materials, and might save, according to other authorities, from 5 to 20 per cent. in the total cost of certain types of construction.

"The subject of economy in methods of manufacturing and distribution involves not only more scientific plant operation, but also more continuous operation. Identification of the causes of the irregularity and intermittency of operation particularly inherent in the construction industry may bring about, it is hoped, elimination of some of these causes and the elimination of loss thru the frequent plant idleness and unemployment."

* * *

Tiling 6,000 Miles of Roads

The "tilers" are at work on the Iowa roads here, there and everywhere this summer. The photograph was taken beside the Monona-McGregor Road in Clayton County, Iowa, where a fourteen-mile grading project is now under way, but probably several hundred similar pictures could be taken in Iowa at this time. Sixty thousand feet of tile are to be used on this one stretch of road in Clayton County this summer.

Iowa has begun this year what is claimed by road authorities to be the bigest road-building project yet begun. The legislature of 1919 provided for a Primary Road system of 6,000 miles, connecting all county seats and all important towns in the ninety-nine counties of the state, and in 1920 the 6,000 miles were selected, surveyed and marked.

Iowa Road Drainage Is Progressing Fast. Everywhere Can Be Seen These Piles of Tile Along the Roads.

With most of Iowa's roads following level or rolling prairie, extensive tiling must be done thruout the state. Within the last three or four months numerous contracts for tile have been let to clay products concerns of Iowa. The demand will increase and last for several years doubtless, or until the entire 6,000 miles of primary road has been properly drained and brought to grade ready for hard surfacing.

* * *

Oklahoma Asking for Rail Rate Reduction

Brick manufacturers in Oklahoma are endeavoring to secure a reduction in the rail rates on brick. It is impossible, they say, to compete with manufacturers from Kansas on the Kansas market if they are compelled to continue to pay two cents more per 100 pounds over the rate from Southern Kansas. The difference in rates is due to the fact that in 1904, when Kansas had a brick production sixteen times as great as Oklahoma, that state was awarded a special rate to help build up Oklahoma. Statements at the hearing before the examiner of the Interstate Commerce Commission at Tulsa, Okla., recently brought out the fact that Oklahoma is now producing twenty per cent. more brick than Kansas. The case has been taken under advisement and a decision will be rendered soon.

* * *

Produce More in 6 Hours Than Formerly in 10

It is more profitable to work men only six hours per day instead of the customary nine or ten and pay them twenty per cent. higher wages than the general average thruout the Charlotte, N. C., section. The above is the opinion of the Yadkin Brick Co., of New London, N. C., and in accordance with this belief the three plants of this concern are operated. A very accurate and comprehensive cost accounting system has been installed at the New London plant, Rufus Isenhour, a member of the firm says, and the exact cost of every step in the process of manufacture is known.

Since instituting the six hour day the company has been able to reduce the cost of brick per thousand for labor and this system has also been the means of effecting a twenty per cent. reduction in the total cost of brick per thousand.

Mr. Isenhour says: "With the system which we have worked out the men are able to do more work in six hours than they would ordinarily do in ten hours. We are therefore able to pay them about twenty per cent. more wages per day than the general average of wages paid thruout this section.

"Just now, when everybody is yelling hard times, the entire production of our plant is sold for over a month in advance. Our plant at Colon is sold nearly two months ahead and the Salisbury plant has all the business it can take care of."

It is claimed that one of the secrets of the success of the Yadkin Brick Co.'s six hour day system is the willingness of the workers to work. The laborers are all singing at their tasks and always urging each other to greater speed. Every operation at the plant is standardized and it has been laid out and designed to eliminate wastage of labor in every possible way. Wherever it has been practicable to supplant hand labor by machines this has been done. One man with a shovel digs all the clay required.

The firing of the kilns is a fair example of the extent to which standardization has been carried out at the Yadkin Brick Co. The firing of the kilns is done on a twenty minute schedule and not more than one minute variation is allowed. The amount of coal consumed is carefully measured by the use of gauged shovels. Every day of the year, regardless of the weather, the same amount of brick is turned out and the railroad company, according to Mr. Isenhour, has hauled away from the plant the same tonnage every working day of the year for the past five years.

* * *

Canadian University Starts Ceramic School

The University of Saskatchewan, at Saskatoon, has decided to open a ceramic department, which will be the first of its kind in Canada. W. G. Worcester, who received his training at Ohio State University, has been appointed as the first professor at this school.

Professor Worcester is a graduate of Professor Orton's pioneer ceramic school, instituted in 1894. Many of the ceramists now famous were students at that time, including among others, Bleininger, Purdy, Watts, Stull and Brown. Altho Professor Worcester is a native of Ohio he has spent most of the last nine years in western Canada and is therefore familiar with ceramic materials and conditions in that part of North America. In addition to his work at the university he is carrying on a complete survey and tests of the clays of the providence for the Department of Labor and Industries, this department and the university cooperating in the work.

FIVE SALIENT POINTS *and* NOVEL DISPLAY SELL FACE BRICK

Face Brick Sales Manager of United Fuel and Supply Company Describes Exhibit and Gives Sales Hints

FACE BRICK in its many beautiful shades, colors and textures, can be very effectively laid up in form in the dealer's office to be used not only as a clincher in making a sale, but to attract favorable attention of customers in the office.

The United Fuel and Supply Co., of Detroit, Mich., is a believer in the great value of a face brick display room designed so as to give the prospective builder a true idea of the brick laid up in the finished wall, and in such a manner so as not to confuse the customer by many different presentations.

FIVE STRONG ARGUMENTS FOR BRICK

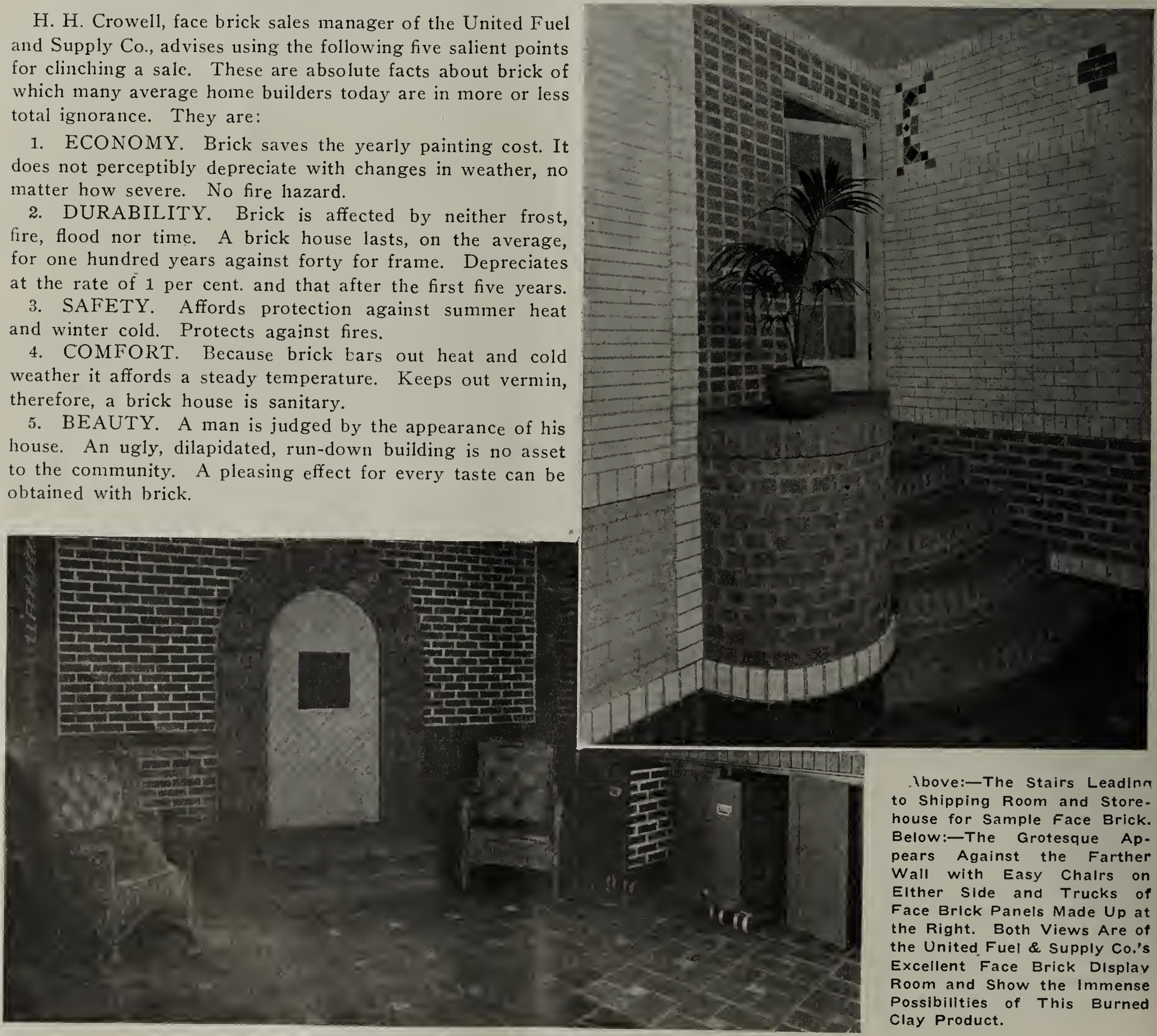
H. H. Crowell, face brick sales manager of the United Fuel and Supply Co., advises using the following five salient points for clinching a sale. These are absolute facts about brick of which many average home builders today are in more or less total ignorance. They are:

1. ECONOMY. Brick saves the yearly painting cost. It does not perceptibly depreciate with changes in weather, no matter how severe. No fire hazard.
2. DURABILITY. Brick is affected by neither frost, fire, flood nor time. A brick house lasts, on the average, for one hundred years against forty for frame. Depreciates at the rate of 1 per cent. and that after the first five years.
3. SAFETY. Affords protection against summer heat and winter cold. Protects against fires.
4. COMFORT. Because brick bars out heat and cold weather it affords a steady temperature. Keeps out vermin, therefore, a brick house is sanitary.
5. BEAUTY. A man is judged by the appearance of his house. An ugly, dilapidated, run-down building is no asset to the community. A pleasing effect for every taste can be obtained with brick.

These arguments in conjunction with the exhibit in the display room, clinches the face brick sale. Two reproductions accompanying this article present views of the face brick display department of the United Fuel & Supply Co. Mr. Crowell in explaining this particular exhibit room says:

USE VARIOUS TYPES IN DISPLAY ROOM

"As to beauty, brick is now made in such variety of color, tones and textures, that with a little care you can get exactly what will suit your own particular taste. Therefore, in our exhibit room we have tried to treat the various types and textures of brick in the various mortar colors and bonds, in order



Above:—The Stairs Leading to Shipping Room and Storehouse for Sample Face Brick. Below:—The Grotesque Appears Against the Farther Wall with Easy Chairs on Either Side and Trucks of Face Brick Panels Made Up at the Right. Both Views Are of the United Fuel & Supply Co.'s Excellent Face Brick Display Room and Show the Immense Possibilities of This Burned Clay Product.

that the prospective user may gain some idea as to the proper treatment of not only the bond, but the mortar color treatment and the proper blending of the shades, known as variation, which will best fit or enhance the beauty of the particular design of building he expects to erect, and we feel that having made a careful study of the difference in quality in the various types of brick manufactured, as well as the proper architectural treatment of brick walls as related to the many different types or periods of designs, we are in a position to render the building public, and the architectural profession real assistance in their many problems in the selection of a proper exterior facing material."

EXHIBIT ALL IN ONE LARGE ROOM

The space occupied by the United Fuel & Supply Co.'s exhibit of face brick consists principally of one large room which is reached thru what might be called a lobby. A small portion of the room is separated from the rest for use as an office for the person in charge. The separation is accomplished by a wall about four feet high on which is a terra-cotta coping, the wall being composed of sample brick.

The stairway shown in the upper picture of the accompanying views leads to a room which is a sort of shipping room where surplus samples are also kept stored. The floor of this room is some three or four feet above the floor of the main room. An open space is provided between these two floors in which are kept small trucks containing sections of wall made up with many kinds of brick and various mortar joints. These trucks are wheeled out for customers to give them an idea of what these brick look like when built up. In using trucks in this manner, less space is required to display all of the various combinations, and one panel can be shown at a time so as not to be so confusing to the prospective builder as when he must look at a dozen different panels simultaneously and with great confliction of mind. These locker spaces, as you might call them, are ordinarily closed from the main room by doors.

BRING OUT DECORATIVE POSSIBILITIES

The lobby referred to has its walls built up of enamel and similarly finished brick graduated as much as possible, according to their texture and finish so as to produce harmonious results. Conventional figures are worked in the walls to show the possibilities of decoration.

As is the case in most display rooms, the walls of the main room are taken up with the various samples, the brick and mortar being so grouped as to produce the best effects. The floor consists of suitably toned tile from which rises on one side of the room a small platform in semi-circular shape and above this is a panel resembling an arch doorway. The center panel is of light brick and is broken up by a grotesque—a terra cotta lion's head. On either side of the doorway is a large easy chair for the comfort of the customers.

When the season of the year will permit of it, the United Fuel & Supply Co. usually maintains window boxes on the inside of the main display room filled with flowers. The windows are hung with attractively designed drapes. These additions add materially to the general appearance of the room and go far toward making a favorable impression upon the spectators.

PUBLIC INVITED TO INSPECT DISPLAY

Large windows supply light for the exhibit rooms during the bright days. During cloudy weather these windows are supplemented by light fixtures having the so-called "day-light" globes in them.

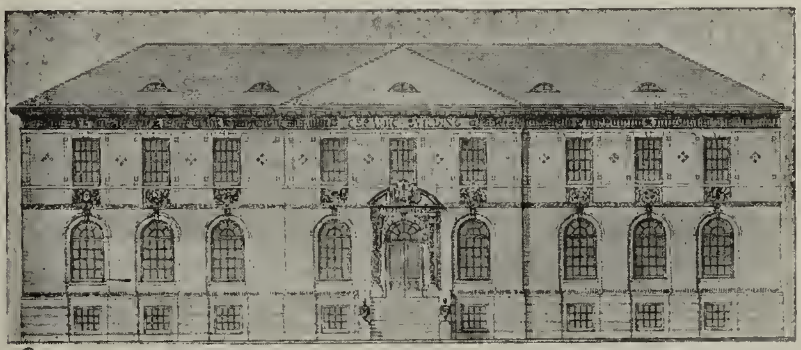
An entrance door of large plate glass artistically lettered in gold leads into the display. Various signs in the general office halls and also behind the sales counters draw attention to this department and invite inspection of it by the public. The room is located near the other offices which cater to the building supplies in general. This makes it accessible to those buyers who come into the offices, permitting them to reach it and review its contents in a short time.

It is impossible to show the beautiful colors of the brick as they appear in the panels and walls in the reproductions herewith, but the black and white plates, altho they do lack this important feature, tell a story in themselves.

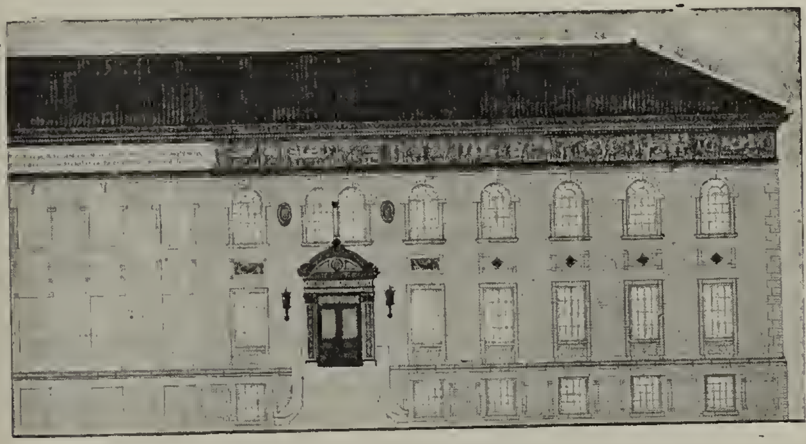
* * *

Rutgers College New Ceramic School

Frequent reference has been made to the new ceramic school for New Jersey. Accompanying this article are two cuts representing the first and second prize designs which were submitted in the prize contest offered by ceramic manufacturers in New Jersey. The first prize was $200, awarded to E. W. Moell, Rocky Hill, N. J., and the second prize of $100 awarded to S. R. Oudsley, Perth Amboy, N. J.



This Design Won First Prize in the Contest for the Facade for the New Ceramic School at Rutgers College.



This Design, Which Was Awarded Second Prize, Also Has a Chance of Being Selected as the Model for the New Ceramic School.

The contest was for a façade to be constructed of brick or terra cotta and both prizes will be given consideration in the construction of the new ceramic school which will be located at Rutgers College, New Brunswick, N. J.

* * *

Association Executives Meet with Hoover

At a conference between Secretary of Commerce Hoover and a committee representing the American Trade Associations' Executives, June 3, the general functions and activities of trade associations were discussed. Mr. Hoover told the committee that he was convinced that trade bodies have contributed largely to efficiency in industry and that collective effort, within the proper lines, has the approval of the government. It is the plan of the commerce department, Mr. Hoover said, to use the trade associations as one of the points of contact between the government and industry.

The association executives expressed a willingness to cooperate fully and voiced the hope that such cooperation would bring a new era of understanding between the government and business.

R. D. T. Hollowell, secretary of the American Face Brick Association, represented the clay industry at the meeting.

PUTTING *the* HUMAN TOUCH *in* SALES LETTERS

Courtesy is Most Important Consideration in Letter—Do Not Try to be Humorous, But Reflect Your Own Personality in Your Message

By Ralph H. Butz

ONE OF THE SEVEN WONDERS of the business world is the man who is too smart to waste his time snaring bass with a dead minnow, but who persistently endeavors to get business with sales and follow-up letters which are not only unable to wiggle their tails, but which show unmistakable evidence of rigor mortis.

The difference between the live sales letter and the other kind is hard to define. It is like the minnow on the hook. If it is alive it gives a kick once in a while. You cannot define the flip of a minnow's tail, and you cannot define the equivalent "kick" in a letter, that vague spark which kindles interest. But there is something you can tell every time: a minnow is dead when its eyes are set and faded, its little body stiff and lifeless. You will not catch many bass with that kind of a minnow, and you will not make many sales with a letter which "begs to acknowledge," "thanks you in advance" or "calls your attention" to that "favor" which is constantly coming "duly to hand," no matter if you "hand them herewith" beautiful diamonds done up in gold leaf wrappings.

For some years past the writer has been engaged in the pleasant sport of catching buyer bass with sales letter minnows. I will, therefore, outline a few of the things I have learned about writing letters for the average buyer.

ELIMINATE OLD-FASHIONED STEREOTYPED PHRASES

Every one knows that the first law for successful merchandising by means of the written word is, KEEP HUMAN. But we do not practice it. The temptation to fall back upon those fine sounding, meaningless, dear old stilted phrases, is beyond our power to resist. Tho far from servile in our daily walk and conversation, we seemingly yearn to tell our prospective customer that we are his to kick around as much as he pleases. In fact, we tell him so straight out, not only that we are his "very truly," but that we humbly "beg to remain" so.

In short, it is our natural bent to pour forth smooth sounding, meaningless words with the freedom of the proverbial drunken sailor. Charmed with the hum of smooth flowing syllables, we lull ourselves with our own dictating voices until we have acquired a sort of rhetorical "jag."

There is nothing that can be said in favor of the use of words that mean nothing, and it would be only right to charge the correspondent with every one of them he uses, for he is wasting perfectly good time and white paper, to say nothing of spoiling the story he has to tell.

REFLECT PERSONALITY IN LETTERS

To keep human, however, means more than cutting out unnecessary words and old worn out phrases which may have been snappy the first time they were used. It means making your letters read like you would talk. That is the whole thing. The very best you can do is to reflect your own personality in the way you tell the story you have to tell, and if you do that the letter will be successful nine times out of ten, for the "human" letter stands out from a pile of mail like a pretty girl at a spinsters' tea party. Plain words of type are the only weapon you have in letter writing. In turning out a page of copy for a magazine you have layout and type display to help you, and perhaps you may be able to get it across even if the copy is weak, but in the letter all you have is word built upon word and sentence after sentence, and if no life is there the minnow just will not wiggle its tail.

Years of writing sales letters have taught me that next to honesty, courtesy is the most important thing in business. No matter how bright an idea you may have, it is well to refrain from using it unless you would use the same expression in addressing your grandmother. You never know exactly the kind of man you are writing to, and the best way is to play safe.

INCORRECT WAY OF APPROACHING PROSPECT

In the early stage of the game I composed a final letter to a series. This letter was designed to get under the recipient's hide, causing him to answer if he did nothing else. The letter was in the following form:

> Dear Sir:
>
> If you were an Eskimo you wouldn't be interested in bathing suits, or furs if you lived in the tropics.
>
> So we naturally concluded that when you asked for our catalog you were thinking of buying our product. But as you have failed to acknowledge any of the several letters we have sent you we are wondering if this is true.
>
> We do not wish to appear insistent, but as the mailing of catalogs is an expensive matter, we would naturally like to know how the situation stands in regard to your requirements; so that we may be able to keep our records straight and separate those who are actually interested from those who answered thru curiosity.
>
> Will you please let us hear from you?
>
> Very truly yours,

I am ashamed to think I ever wrote that letter. But if replies were the only test it would have been a winner, for they came from all parts of the country. Then I got one that opened my eyes as to how the letter appeared to the other fellow:

> Gentlemen:
>
> In reply to your recent letter, I wish to say that I am neither an Eskimo nor a South Sea Islander. I wrote for your catalog because I was in the market and have since purchased from another firm, because I liked their product better after comparing the two, and taking the price into consideration.
>
> My reason for not replying to your earlier letters was that I considered such a reply unnecessary between a business house and a prospective customer. If I have been lacking in

courtesy I regret it, but I feel that any neglect on my part was no more discourteous than the general tone of your letter, which I resent.

Enclosed you will find stamps to the amount of fifty cents to cover any loss on my behalf, and kindly remove my name from your mailing list.

Yours truly,

SARCASM MUST BE AVOIDED

I owe that prospect much more than his fifty cents. He was a better letter writer than I. He said just exactly what he wanted to say, got his punch home, and in the most courteous manner possible. Since then I have learned that even a suspicion of sarcasm has no place in the follow-up.

Speaking of courtesy, a little point should be mentioned that is frequently overlooked. It is to see that the prospect's name is correctly spelled. Whether he admits it or not, a man hates to see his name wrong, so a little extra time checking is time well spent, even tho the name is near enough to get thru the post office.

One of the first things in putting the "kick" of life in the follow-up letter is to get right down to business in the first line. Forget all that has gone before and put your message across with a quick jab.

This is the principle employed by the newspaper reporter, who is up against much the same problem as the writer of sales letters. He has nothing to work with but plain type, and it is up to him to sell his story first to the city editor and next to the readers of the paper. There are some unwritten laws known to every newspaperman which are of infinite value to sales correspondents.

The first commandment is this: Tell the story in the first paragraph. The average writer then asks, "What will I do with the rest of the letter?"

BRING IMPORTANT POINTS TO THE FRONT

The body of the letter is where the details are developed. The reader's mind works from the general to the particular, while the mind of the untrained writer has a habit of working from the particular to the general, and, therefore, the two do not mesh very nicely.

To illustrate what I mean, take the story of a prominent man found dead under mysterious circumstances. Such a story is worth two columns on any front page. If an untrained reporter were assigned to cover such an incident he would probably start with the earliest piece of evidence the police had gathered and follow events along in their natural sequence. But the experienced reporter instinctively fills that first paragraph full of meat, something after this fashion:

"John Niptaker, wealthy manufacturer and club man, was found dead in front of the Magnolia Apartments, 372 Driveway Avenue, at 6 o'clock this morning. Death was due to concussion of the brain, caused either by a fall or a blow from a blunt instrument. The police are holding Miss R. U. Gay, in whose apartment Niptaker was seen last evening."

TELL STORY IN FIRST PARAGRAPH

This is but one of many paragraphs explaining how Mr. Niptaker came to his end, but after reading the first paragraph you can stop and still know what the whole story is about. The rest of the story simply works up the details, tells how he was found, how he happened to be there, what the janitor thinks of the case, heart-throb stuff about breaking the news to Mrs. Niptaker. The story can be built up to any length, but the little first paragraph is the keystone of the story.

This same principle can be applied to the sales letter. Suppose you are selling a new device that beats anything else known. Get that into your first paragraph. Then you can follow up with the beautiful appearance, compactness, economy, etc.

Buyers prefer to take their sales letters without the thin sugar coating of alleged humor. There are very few "smart" letters which appear smart to anyone but the man who wrote them. The thing that makes the sales letter stick out from the rest is the human touch, plus the purely mechanical trick of saying what you have to say in exactly the number of words it takes to tell the story.

* * *

Tile Road Drainage Highly Successful

The value of tile drainage of farm land is probably no more evident anywhere than in the state of Iowa. This state has also been one of the leaders in using tile to drain the highways. Cerro Gordo County is a striking example of the vast improvement tile drainage has accomplished for the soft, loam roads which are typical of Iowa. The first mile paved on the Mason City-Clear Lake Road was on an unusually muddy stretch and six-inch tile were laid on each side of the road, six feet below the top of the pavement. On the second mile the grade was in better condition in the wet weather and drains were omitted for a space of 1,000 feet, with the result that an unusual amount of longitudinal cracks have become evident on this section. This stretch will now be tiled.

A little difficulty has been encountered along some of the highways where many trees are close by. The roots of the trees extend for long distances in search of water and sometimes enter the tile and spread out with astonishing rapidity after entrance has been gained, so that the flow of water is completely stopped.

Cross drains under the pavement are seldom used but when a low spot is encountered sumps or catch basins are used. These are usually constructed by placing an eighteen-inch tile within a twenty-four-inch and filling the space between with concrete. The catch basin is carried down two feet below the outlet tile and a cast iron grating placed over it. The slope of the drain is usually about .25 foot per station but in some instances .2 foot has been considered sufficient.

* * *

Wood Construction Is Habit with Americans

Inability and unwillingness to break away from the customs of our ancestors who built of wood because it was the only material they had, is given by W. G. Long, treasurer of the New England Brick Co., of Boston, Mass., as one of the reasons it is so hard to make New Englanders, at least, see the greater beauty and value in brick construction.

Since the coming of the Pilgrims, three centuries ago, Mr. Long points out in an interesting article in a recent issue of the Boston Sunday Post, New England has been using wood for building purposes where if the people would but realize it brick would be cheaper and undeniably more beautiful and lasting.

"For our forefathers the reasons for wooden construction was obvious," says Mr. Long. "For us today there is no excuse for such an economic waste. The reasons for brick for all types of construction are many—but one alone, the appalling fire loss in this country, should be enough to make us stop this wooden madness, yet we continue to oppose extension of our fire limits and consider first costs only."

* * *

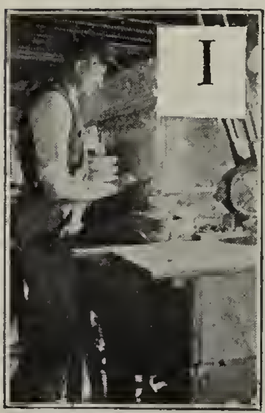
1919 Brick Output Shows 42% Gain Over 1920

A total of 18,350,354 brick and 1,164,270 lineal feet of tile and drain-pipe were produced last year in the province of Nova Scotia. This shows an increase in the production of brick of 5,445,804 or forty-two per cent. over 1919. The tile and drain-pipe shows an increase of 558,335 feet or forty-eight per cent.

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

GERMAN CERAMIC EXPORTS GROWING



IT WAS only a weeks ago that this department called attention to the heavy receipts of German ceramics by American importers, but today, official statistics are available which show that German pottery manufacturers are giving Japan a close race for supremacy in this line of exportation. As the season advances, many buyers contend that the receipts of German pottery will show a decided increase over the records of the past.

For some years, Japan has held top position in the exporting of ceramics to the United States. For ten months, ending April 31, Japan has shipped ceramics to the United States at an accredited valuation of $3,602,901, while for the same period, the receipts from England had a valuation of $3,418,093.

SHIPPING FACILITIES FROM GERMANY IMPROVING

Germany, during these ten months sent across the ocean ceramic merchandise to the valuation of $1,113,446. It must be remembered, however, that shipping facilities are improving, and that Germany will continue to send over more ware than it has in the past.

Official statistics of imports of ceramics, however, show what Germany has been doing within the last few months. In April 1920, Germany exported to the United States wares valued a $36,727, but for April 1921, this business increased to $126,529. For a ten months record ending April 31 in 1919, Germany sold United States Importers wares valued at $104,775, and for the same term in 1920, this volume increased to $584,643. Then for the same term ending April 30 last, the shipments soared to $1,013,446.

Receipts from Japan, however, continue to estabish new high records. For the ten months ending April 31, 1919, Japan exported to the United States ceramics valued at $1,565,191, and for the same term ending April 31, in 1920, this business increased to $2,088,363. Then for the corresponding term ending April 31, 1921, the export record of Japan soared to $3,612,901.

SHIPMENTS FROM ENGLAND ARE INCREASING

England, for the first ten months in the fiscal year of 1919 which ended April 31 that year shipped the United States ceramic merchandise to the valuation of $2,119,614, and for the same term ending April 31, 1920, increased its shipments to a valuation of $2,991,764. Then for the corresponding term of ten months ending April 31, their export business in ceramics reached a new high mark of $3,418,093.

For the month of April 1920, England shipped ceramics to American exporters to the valuation of $193,689, while in April, 1921, its shipments soared to $417,531.

All ceramics imported into the United States during the month of April, 1920, were valued at $744,501, while the record for April, 1921, shot up to $1,140,520.

FOREIGNERS FIND AMERICA GOOD MARKET

A comparison of importations of ceramic wares for the ten-months term for the last three fiscal years, shows that foreign manufacturers are "doing a big business" in America. During the ten months ending April 31, 1919, the total importations of ceramics were valued at $5,406,903, and the same term ending April 31, 1920, had increased to $6,729,074. For the ten months term ending April 31 last, the valuation of imported ceramics were valued at $10,877,707, or an increase of $4,148,633.

Not as much French ware is coming into the United States as one would suppose, for the record of the last ten months shows an import valuation of $620,911, and for the preceding ten-month corresponding term in 1920 the shipments were valued at $512,172 and $476,485 for the ten month term ending April 31, 1919. In April 1920, France sold the United States ware to the valuation of $53,252 and for April 1921, its shipments increased to $91,075.

All of which proves this situation: importations are showing a decided upward tendency, while the demand for the American lines is not what the American manufacturers would like to see. The sooner the situation is changed in the American pottery industry the better it will be for all concerned. A higher grade of merchandise will go a long way toward eliminating an increased demand for the cheap labor-made foreign product.

The statistics quoted are from Federal Government sources, and are not subject to dispute as to valuation and volume. The time is at hand when the American pottery industry must go forward.

* * *

New Clay Drying System Effects Huge Saving

Interesting developments in connection with the drying of china clay in England are likely to have an important bearing on this industry in Devon and Cornwall and will undoubtedly be reflected in the exports to this country. After many years of searching for a new process of drying china clays which would be cheaper and more efficient tangible results have at last been arrived at which bid fair to revolutionize present methods.

At present all drying is done in sheds with a fire at one end and a chimney at the other. This is a very expensive method, the original cost of the dryer being very great and the drying process very expensive in fuel consumption. In the new method two metal drums are used, one inside the other. The inner drum revolves by mechanical power and as it revolves steam is shot into it. The clay is put in the space between the drums and comes in contact with the revolving drum; the water is evaporated and the clay dried in a few minutes.

Clay as now shipped from the "dries" contains from twelve to fifteen per cent. by weight moisture which, of course, must be paid for in freight charges. By the new process all but two per cent. of the moisture is removed. Under the old system one ton of coal was required to dry from eight to ten tons of clay, whereas the new method will dry forty-five tons of clay with one ton of coal.

⁂

Austria Finds Huge China Clay Deposits

With the recently reported discovery of valuable deposits of kaolin in Austria the china clay and porcelain industry is threatening to be revived in that country. The clay is said to be very white and plastic and suitable for making high grade varieties of electric porcelain with a fusion temperature of 1,750 degrees C. A number of test holes have been bored over an area of twenty acres to determine the extent of the deposit and in some places the depth of the clay bed has been found to be more than thirty-six meters.

The clay beds will be developed and the engineer in charge expects within a period of six months to be producing about 300 tons of high grade china clay daily, valued at approximately $60 per ton. It is planned to use the government plant at Wellersdorff as a refractory plant for treating the clay and for developing glass, textile, and metal works in connection therewith.

⁂

To Get Back to Pre-War Methods

A special joint meeting of the Labor Committee of the United States Potters' Association, and the Executive Board of the National Brotherhood of Operative Potters convened in the Hotel Chalfonte, Atlantic City, June 6, for the purpose of considering thirty-seven "rules and regulations" which the general ware pottery manufacturers desire to have incorporated as a part of the joint wage agreement.

At the same time, a supplementary discussion was to take place relative to the reduction of the wage scale.

Manufacturers want to get back to pre-war methods of pottery manufacturing. Less speed is wanted. More care in making is sought. A better grade of production is demanded by the buyers. It is on this account that the manufacturers seek a new set of working regulations which in time will insure steady operations of all plants.

⁂

Pottery Workers Association Elects Officers

In the election of officers by the National Brotherhood of Operative Potters practically all old officers were reelected by the 8,000 pottery workers who voted. The officers are Edward Menge, East Liverpool, Ohio, president; F. H. Hutchins, Trenton, N. J., vice-president; George Chadwick, second vice-president; Louis Driber, third vice-president; John T. Wood, secretary-treasurer.

⁂

Experimenting for Higher Grade Insulators

Roy C. Williams, a young insulation engineer, formerly with the Westinghouse Co. as inspector of insulation in all the Western states, where for two years he gained first hand experience and information that is of great value to him in the knowledge of the requirements of high-power lines, has been engaged by the Alberhill Coal & Clay Co. to make intensive and thoro tests of all Southern California clays, with special reference to the improvement of insulators for the increased current which the modern requirements of Western power is forcing the power companies to install. These investigations will be directed toward securing better insulators under severer tests than have hitherto been considered necessary. They have the cooperation of the power systems and manufacturers, who are contemplating the erection of plants for making the insulators when the tests and the small-scale producion have proved the clays and their methods of treatment.

⁂

New Jersey Shipping Rates Reduced

Following energetic activity on the part of earthenware manufacturers at Trenton, N. J., the United States Shipping Board has announced a reduced rate on sanitary ware from the Trenton district to western points of $1.50 a hundred-weight. The former rate has been $1.70, and has worked to decided advantage of local potters in competing in the western markets. The new rate, also, will mean the saving of thousands of dollars annually in shipping charges. Efforts to bring about the reduction have been made several times since the first of the year; with a rate as low as ninety-five cents at one time, this has advanced to the $1.70 figure noted, despite numerous protests on the part of producers. Other potteries in the vicinity of Trenton will also share in the advantages, including Lambertville, Camden and nearby points. The favorable outcome is due primarily to A. C. Hoffman, traffic manager of the Trenton Potteries Co.; Fred Lake, of the J. L. Mott Co.; and George Dryer, of the Sanitary Potters' Association.

⁂

Places Biggest Order for English Clay

The largest consignment of English clays ever sent to one pottery has been ordered by Homer Knowles for the Homer Knowles Pottery Co. plant in Santa Clara, Cal., and is expected to arrive via the Panama Canal about the first of August. Machinery and other orders for material have been placed in the East by Mr. Knowles on his recent trip from which he has returned.

Plaster has been ordered and several of the most skilled mechanics in the pottery trade have signed and will come to Santa Clara from the East during July to begin making molds for the new factory. The work on the buildings is progressing rapidly. A well is being drilled and as soon as water is reached concrete work will be started. Almost all of the building material is on the site.

⁂

Hope to Build Pottery at Alberhill

At a dinner given to the various chambers of commerce of Riverside County, Cal., by the Riverside Chamber, when forty-five representatives were present, the Alberhill clay deposits formed the topic of the evening and steps were taken to make Alberhill the center it deserves to be—the only municipality in the world devoted to ceramics in the multitude of forms and utilities to which clays lend themselves. A large pottery at Alberhill is suggested, this to be financed by local capital and to produce a diversified line of pottery.

⁂

Hopewell China Co. Reorganized

The re-organization of the Hopewell (Va.) China Co., has been announced, also the fact that the capital stock of the corporation has been increased from $350,000 to $500,000. The new officers are: President, Sol Ostrow, of East Liverpool and Pittsburgh, Pa.; first vice-president, Will Scraggs; second vice-president, Louis Rosenthal, Pittsburgh; secretary and general manager, Louis R. Groglode; treasurer and sales manager, A. B. Strikow, East Liverpool. The officers compose the board of directors. Mr. Strikow will leave East Liverpool June 15 for Hopewell, where he will be permanently located.

The company plans the immediate erection of two additional double decorating kilns, its present capacity being but two such kilns. The seven kiln plant is now reported to be working to capacity. Oil is used for fuel for all kilns.

Distributing sales offices are to be established in New York, the south and west, while the Earl W. Newton Co., of Chicago, now has the line for that district.

Mr. Strikow came to East Liverpool nine years ago, and for the last six years has been associated with the pottery brokerage business.

The Hopewell line will likely be shown at the Pittsburgh Glass & Pottery Exposition next January, being located in the Ft. Pitt Hotel instead of at the William Penn.

* * *

Moves Offices Into Public Park

The Taylor, Smith & Taylor Pottery Co., of Chester, W. Va., is the only pottery concern in the United States ever to have an office in a public park. And the office of this company will be located in Rock Spring Park at Chester for the next four or five months.

Some time ago, and early in the morning hours, the former office of this company was destroyed by fire, the firm sustaining a loss of about $25,000, with insurance of $7,000 on the building and $2,500 on the furniture and fixtures. The origin of the fire has not been determined.

The office contained the sample room and valuable decorating materials, all of which were destroyed.

Plans for the erection of a 40′ x 40′ two-story and basement brick office building, with basement, opposite the plant, have been worked out, and excavation has started for the foundation. While the new office building is being erected, the firm converted one of the unused buildings in Rock Spring Park not far from the plant into an office building.

* * *

Many Buyers in East Liverpool Market

Among pottery buyers who have visited the East Liverpool pottery district of late include: W. T. Darden, Chicago, Ill.; F. H. Obermeyer, of Krenning & Westerman, St. Louis, Mo.; Gus Bub, with B. Nugent Co., St. Louis, Mo.; Leon Neubrik, with Crowley, Milner Co., Detroit, Mich.; Clarence Levy, of Levy Bros., jobbers, Brooklyn, N. Y.; W. F. Newberry, with the Woolworth Syndicate, New York, N. Y. Numerous of these buyers ordered carlot shipments.

* * *

Potter and Wife Will Visit Europe

Mr. and Mrs. C. S. Maddock, Jr., are planning to leave for Europe very soon. Mr. Maddock is an officer of the Thomas Maddock's Sons Pottery Co., Trenton, N. J. He will attend the meeting of the International Rotary Club in Edinburgh, Scotland.

* * *

Hand of Death Grasps J. Richard Owens

News has been received of the death of J. Richard Owens, secretary and treasurer of the New York Terra Cotta Co., in Long Island City, N. Y. Mr. Owens died May 10 in Brooklyn, N. Y.

Has No Connections with California Project

William Pope, of Coshocton, Ohio, when in East Liverpool, Ohio, recently made the statement that he was not interested in any pottery project at Riverside, Cal., neither was he ever concerned in any. "I have no idea how my name got connected up with such a deal, for such a proposition never entered my mind," declared Mr. Pope, whose father was one of the founders of the Pope-Gosser China Co., of Coshocton.

* * *

Standard Sanitary to Have Show Room

The Standard Sanitary Mfg. Co., New York, has leased property in the Borden Building, Forty-fifth Street and Madison Avenue, for a new show room.

* * *

Ohio Corporation to Operate in New Jersey

The Mosaic Tile Co., an Ohio corporation, has filed notice of organization to operate in New Jersey. Roy E. Jordan, Atlantic Avenue, Matawan, N. J., represents the company.

* * *

Atlantic Terra Cotta Co. Moves Offices

The Atlantic Terra Cotta Co., New York City, has moved from its old offices at 1170 Broadway, to 350 Madison Avenue, New York. The new offices are in the Borden Building.

* * *

Pottery Organizes at Coshocton

The National Art Pottery Co., of Coshocton, Ohio, has been incorporated with a capital of $20,000 to manufacture various kinds of pottery. The incorporators are W. H. Baskeyfield, Frank Smith, Mark Adams, William S. Tish and Howard T. Parrish.

* * *

To Motorize Entire Plant

Officials of the Indianapolis Terra Cotta Co., now owned by the American Terra Cotta & Ceramic Co., say that plans are being made to motorize the entire Indianapolis plant. The improvements will cost several thousand dollars. The company recently installed a humidity dryer for ceramic work that enables the company to do its drying in three days.

* * *

Will Build Addition to Plant

The Star Porcelain Co., Muirhead Avenue, Trenton, N. J., has filed plans for the erection of a one-story plant addition. The company is now completing a two-story extension, 30x103 ft., costing about $15,000, to be used for increased operations.

* * *

World Production of Coal in 1920

According to a recent bulletin issued by the United States Geological Survey, the world production of coal during 1920 was ninety-seven per cent. of that produced in 1913. Total coal produced during 1920 was about 1,300,000,000 metric tons, of which the United States produced approximately forty-five per cent. Altho this represented a large increase over 1919, it was still 42,000,000 tons short of the output in 1913.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Suggestions for Designing Chutes

At first sight, the functions to be performed by a chute appear to be so simple as to often lead to failure to produce a satisfactory design from lack of appreciation of the vital points to be considered. On the clay plant there is frequent occasion to build chutes and use inclines so that it is convenient to know some of the points incidental to chute construction. Literature on this subject is very meager, so that the designer has practically nothing to guide him except scattering bits that have been published in various trade journals from time to time.

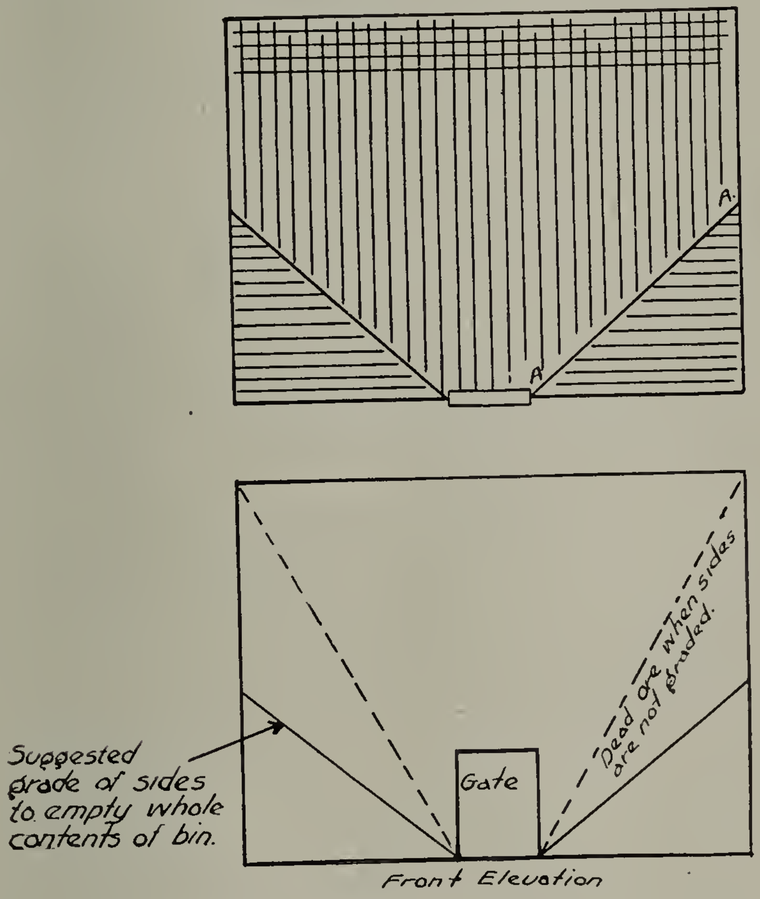

A.
A.
Suggested grade of sides to empty whole contents of bin.
Gate
Dead ore when sides are not graded.
Front Elevation

Fig. 1.

The minimum slope which will cause a material to slide down an incline is variable for different materials and even for the same material under different climatic conditions. It also varies with the weight, hardness, shape and size of pieces and so forth. Thus, a clay for refractory products often slips more easily than a surface clay.

Furthermore, it is obvious that a material, whatever it is, slides more easily on a metallic or polished surface than on a rough wooden one. Hence the type of sliding surface influences the ease with which materials fall as does the manner of delivery into the chute.

Brick and Clay Record in a previous issue said that thirty-eight degrees was a safe figure to use for the angle of slope for clay, altho some engineers use forty-five degrees. For coal approximately the same angle was recommended as for clay. However, these figures seem to be very conservative when compared to those given by one engineer who states that for material reasonably dry, with only a small percentage of fines, and the bottom of the chute being made of smooth flat steel plates, without projecting rivet or bolt heads the gradient at which various materials will slide under average conditions is:

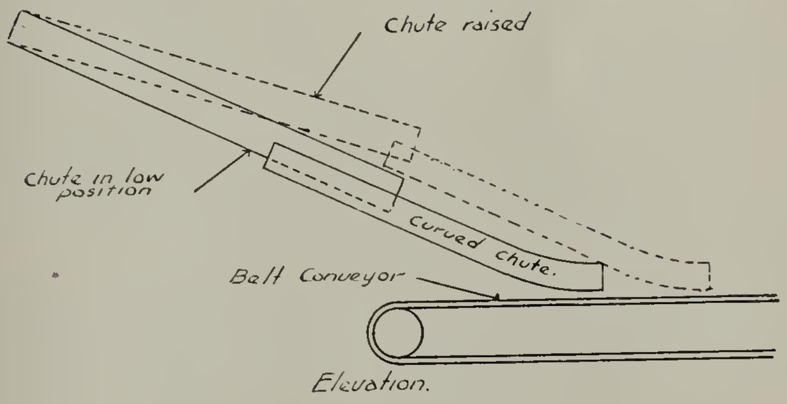


Fig. 2.

Coal in lump size	18½	deg. from horizontal
Coal in small size	27	deg. from horizontal
Iron ore	38	deg. from horizontal
Gravel	40	deg. from horizontal
Sand	38	deg. from horizontal

These gradients are stated in degrees from the horizontal and should be considered as the absolute minimum. Wherever possible the angle should be determined by actual experiment on the material to be handled.

When a material is held in a bin or chute by closing a gate, the material thus being permitted to settle, the above gradients

How Vitrification Proceeds

The amount of fusible matter in the clay at the low temperature around oxidation is very small. It just suffices to bring about some cementing action, but no more. On raising the temperature just a little higher more of the fusible matter is formed, and the clay becomes more compact; at a still higher temperature, the quantity of fusible material is again larger, and we may be able to observe the change by the glassy, or vitrified appearance of the clay body. This continues until complete vitrification and finally fusion has taken place. Vitrification simply means the combination of the softened particles to form a glass-like substance.

It will be remembered, that the temperature in the kiln at the completion of the oxidation period is about 1,500 deg. F. As the temperature is raised, contraction takes place, as mentioned before and at about 1,850 deg. F. a unique change occurs, during which time heat is actually given off from the ware itself. This was discovered by LeChatelier. This change is due to the breaking down of the clay to a compound known as sillimanite, the formula of which is $Al_2O_3SiO_2$ and is a combination of alumina and silica.

will need to be increased by two or more degrees, depending upon the nature of the material, to overcome the inertia of the material at rest.

In designing bins, the bottom should be shaped and graded in all directions leading to the gate or outlet, at the inclination required to start the material sliding after being allowed to settle to rest.

The effective storage capacity of a bin which will completely empty itself is much greater than that of equal total capacity which cannot be completely emptied by gravity alone, because part of a bin, where the bottom layer of material refuses to move, becomes filled up and is no longer available. The angle of repose of material in the dead part of the bin may be sixty degrees or more, whereas by grading the bottom of the bin to that angle required to keep the material moving, which will not usually be more than forty-five degrees, we gain for effective use the space enclosed between the angles of forty-degrees.

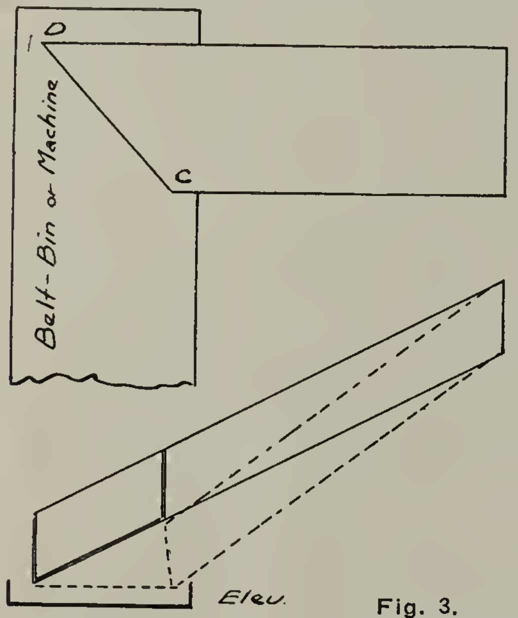


Fig. 3.

This may be more clearly understood by referring to Fig. 1, and it must be noted that the inclination to the horizontal of the two inclined surfaces must be sufficient to make the inclination along the valleys, line AA, that which is necessary to start the material sliding under the worst conditions.

When an extra long chute is desired, the grade required to keep the material moving at the top will cause it to attain a high velocity when the rock reaches the bottom. If the material feeds onto a belt this may cause considerable injury to the belt. On the other hand, if the material feeds into a bin or machine it may cause it much damage and the arrangement should be altered to reduce this tendency. This can be done by making the chute as outlined in Fig. 2, the curved part of which, at the lower end, can be set so as to reduce the velocity of the material to that of the belt and so prevent any damage to the belt at the loading point.

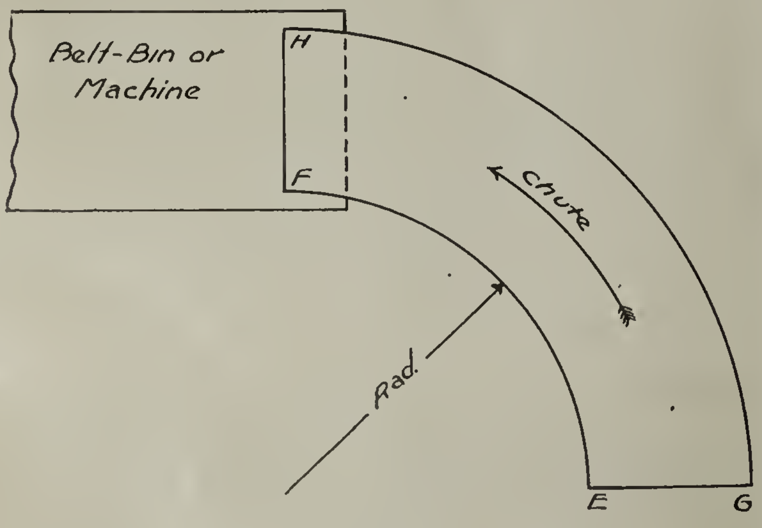


Fig. 4.

By making the chute in two sections as shown, and hung on adjustable hangers, the grade of each chute can be adjusted independently so as to get the right velocity and, at the same time, keep the delivery end of the chute just high enough to clear the belt and avoid dropping the material onto the belt and so cutting the surface.

When the delivery chute is at right angles to the receiver and it is desired to spread the material over the width of the receiver in an even stream an effort is sometimes made to get this spreading effect by cutting off the end of the chute at an angle of forty-five degrees.

In the plan view, Fig. 3, this idea looks all right, but a study of the elevation will show that the point C is much too high above the receiver and the material dropping from this point will be detrimental to a belt. This difficulty can be obviated by making the line CD level, when the chute will appear as shown by the dotted lines in the elevation, but this gives a steeper grade along line C than along the line D, and destroys the even spreading of the material by including the bulk of the rock to run to the point C and leaving the rest of the chute bare.

If the material is uniform in size and delivered to the chute in small quantities at a time, it can be prevented from traveling across the chute by fitting the angle or the bars longitudinally along the bottom of the chute and so forming channels, compelling the material to travel parallel to the chute sides.

The neatest way, however, is to build a helical chute as shown in Fig. 4. This type takes more head room and is more expensive to make but will accomplish the purpose more successfully, if properly designed and made.

In this helical chute we have, as in the last one, a steeper grade along line EF than line GH, but the centrifugal force acts against the tendency to fall towards point F, and if the radius of the chute is not made too small, will give an evenly spread delivery onto the receiver. The smaller this radius, the greater will be the difference between the grades of the material along the two sides.

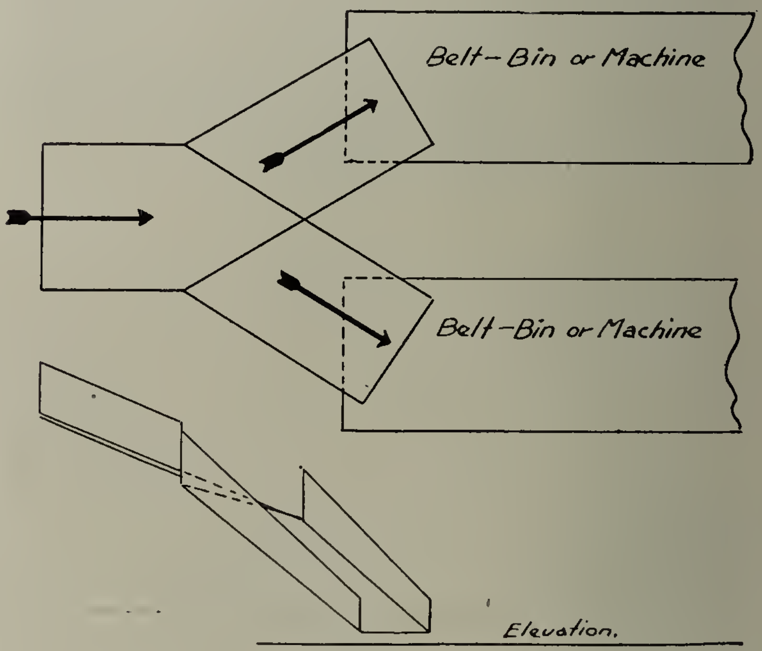


Fig. 5.

Another case that requires consideration to evolve a satisfactory chute is that shown in Fig. 5. In this case the chute is a twin one, having one receiving end and two delivery points to two belts, bins or machines. The conditions to be met are that the grades must follow the arrow heads, shown on the plan, in order that the stream may be of even thickness across the width of the two parts of the chute.

To arrange this, it is obvious that lines LJ and MK must be parallel and in the same plane, and this will usually involve having a slight drop at the point L, taper off to nothing at point M. By judicious arrangement of the respective grades in the single and in the twin parts of the chute, the drop at point L can be kept to a minimum and sometimes eliminated. This depends upon the conditions as to the distance between the points of delivery and length and height available, and can only be determined by laying out to scale on the drawing board.

TIME *and* COST RECORDS BROKEN *in* HOLLOW WARE FACTORY *of* NEW TYPE

Plant Designed and Equipped with Apparatus That Aims Toward Cost, Time and Labor Saving—Can Ship Wednesday, Order for Special Ware Received on Monday

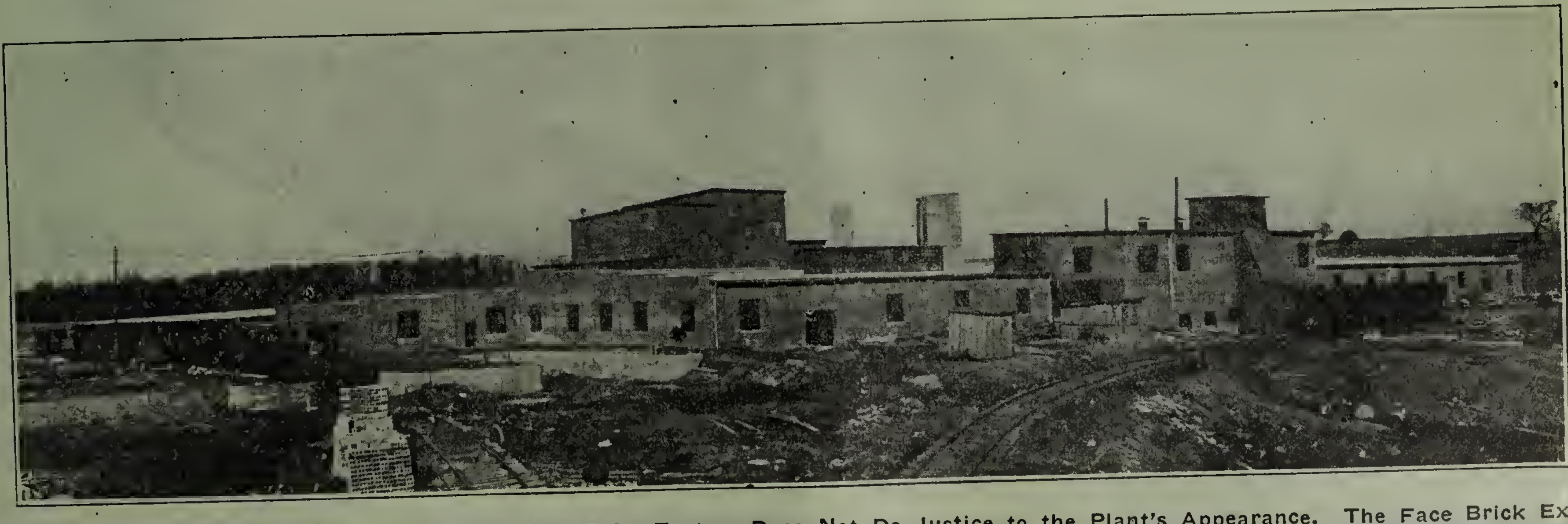
IN PRESENTING this article to its readers, *Brick and Clay Record* is functioning in the manner that is its chief duty in the clay industry, namely, the presentation of new ideas in manufacturing methods to the trade.

The Franklin Brick & Tile Co., which is located at Taylor Station, Columbus, Ohio, and which is the subject of this article, has behind it men of the type which in former years were entirely too scarce in the industry. They have faith in the future of the industry and the nerve to break away from the beaten paths and establish a new precedent in hollow ware plant design.

A glance at the photograph at the bottom of this page, which shows the entire plant complete, will arouse the amazement of the reader at once because of its small size despite the fact that the plant is supposed to be a modern one and of large capacity. However, due to the installation of labor and time saving equipment, special devices and new features in construction, the plant has lent itself into a very compact arrangement capable of efficient operation.

One of the mistakes, common to hundreds of clay plants, is the lack of appreciation that continuous operation means greatest efficiency. Objections have been made to the forced continuity of operation accompanying the installation of a continuous car tunnel kiln but this is really in itself an advantage. It means that everybody from the boy who takes care of cleaning the screens to the sales department and president, is working at full pace at all times.

Speed, low production costs and the reduction of labor hands is the goal that all clay plants are striving for. The success to which the Franklin Brick & Tile Co. has reached this end is given in the statement by R. S. Dingeldine, general manager, who said "our plant saves us seventy-five per cent. in fuel consumption and sixty-five per cent. in labor costs. Besides this the ware can be shipped out in less than seventy-two hours from the time the order is received."



This General View of the Franklin Brick & Tile Co. Factory Does Not Do Justice to the Plant's Appearance. The Face Brick Exterior Sets It Off Beautifully. The Compactness of the Building Will Likely Be a Revelation, Considering the Plants' Capacity.

LINK-BELT
SILENT CHAIN DRIVES

Ten Link-Belt Silent Chain Drives are used in the plant of the Franklin Brick & Tile Co., Columbus, Ohio, to operate dry pans, pug mills, auger machines, fans and lineshafts.

These Link-Belt Silent Chain Drives were adopted only after thorough investigation and study of various types of drives, and personal inspection of Link-Belt Silent Chain Drives used in other Ohio clay plants.

If **you** want reliable, efficient, economical power transmission in your plant, use Link-Belt Silent Chain.

The ease and convenience of its application, its flexibility which cushions shocks on the motor, the short centers on which it operates, the "Safety First" features obtained by encasing, the large ratio of speed reduction obtainable and its high sustained efficiency, are points which make it the "Ideal Drive for Clayworking Machinery."

Special Booklet on request.

LINK-BELT COMPANY

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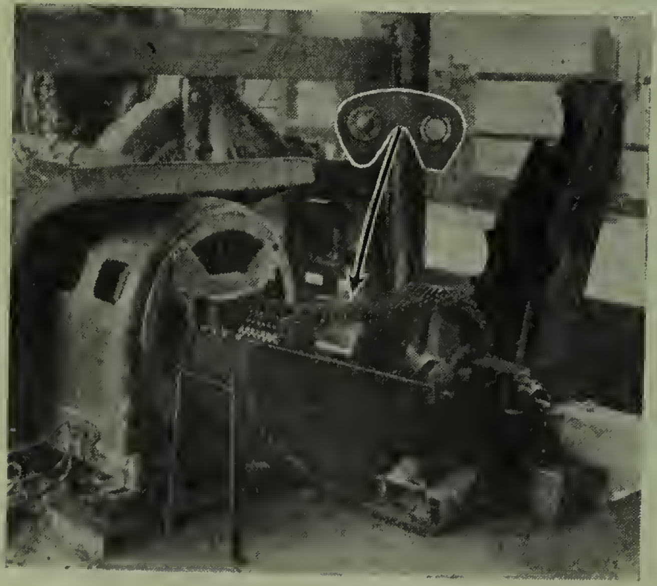
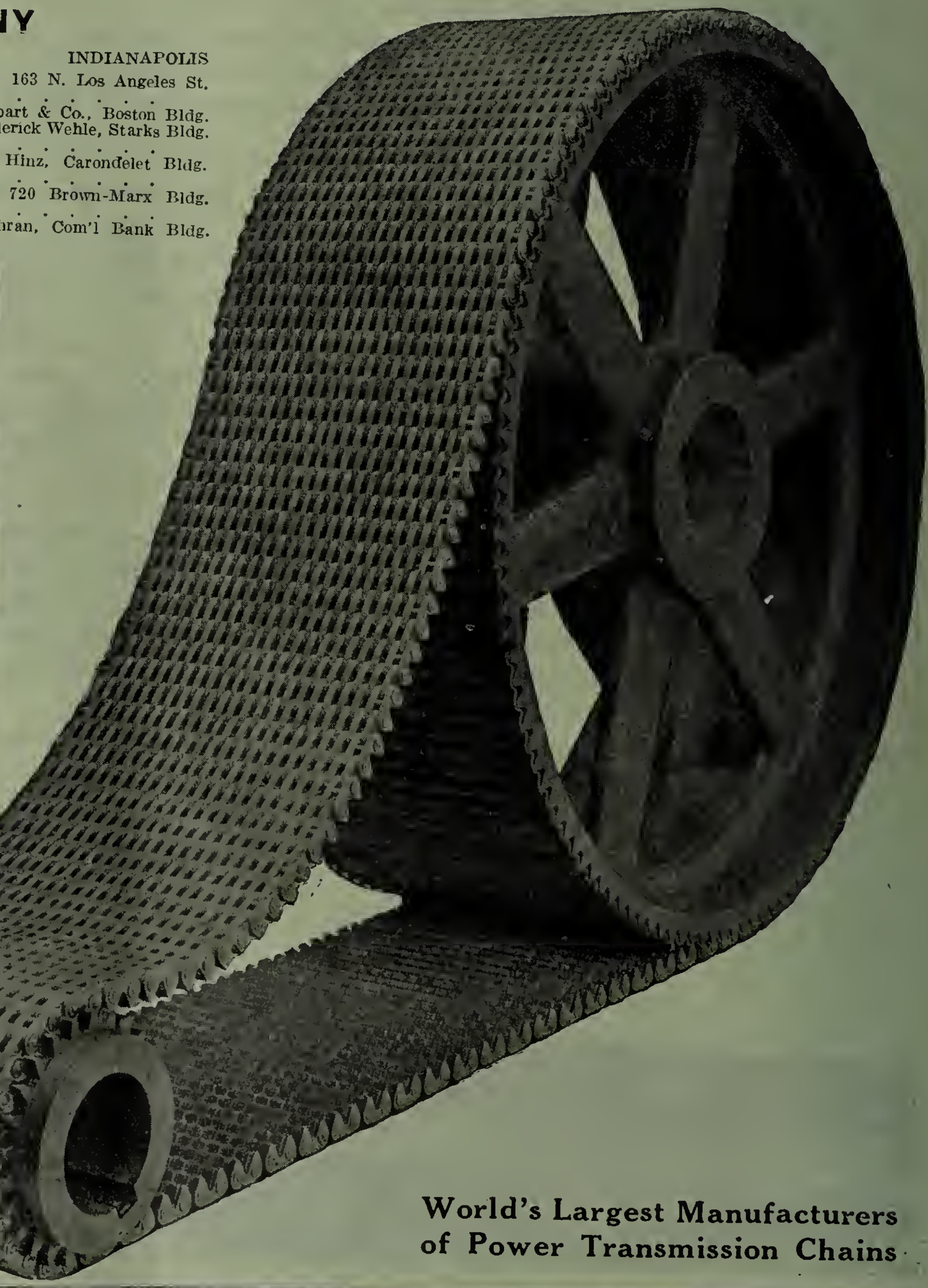


Link-Belt Silent Chain Drive operating grinding pan. Standard Refractories Co., Claysburg, Pa.



World's Largest Manufacturers of Power Transmission Chains

The "Clay Hole" Is Still Quite Small Compared to the Pits on Other Plants. The Shale is the Bedford Shale Which is Quite Familiar to Ohio Producers.

This Six Ton "Plymouth" Hauls the Cars of Shale to the Factory. The Haul is Up-Grade All the Way and the Engine Makes the Incline Without Any Difficulty.

PRIMARILY the reason for the great difference in design of the Franklin Brick & Tile Co. plant is due to the fact that it is built around the car tunnel continuous kiln as a hub. The application of this type of kiln in heavy clay ware manufacture, has necessitated a number of vital changes in arrangement. However, while the tunnel kiln is the keystone of the plant and is the chief cost and time saver, all other equipment and machinery that was installed for hollow ware manufacture was chosen with care and to the end that labor and cost saving would result.

ENORMOUS QUANTITY OF MATERIALS USED

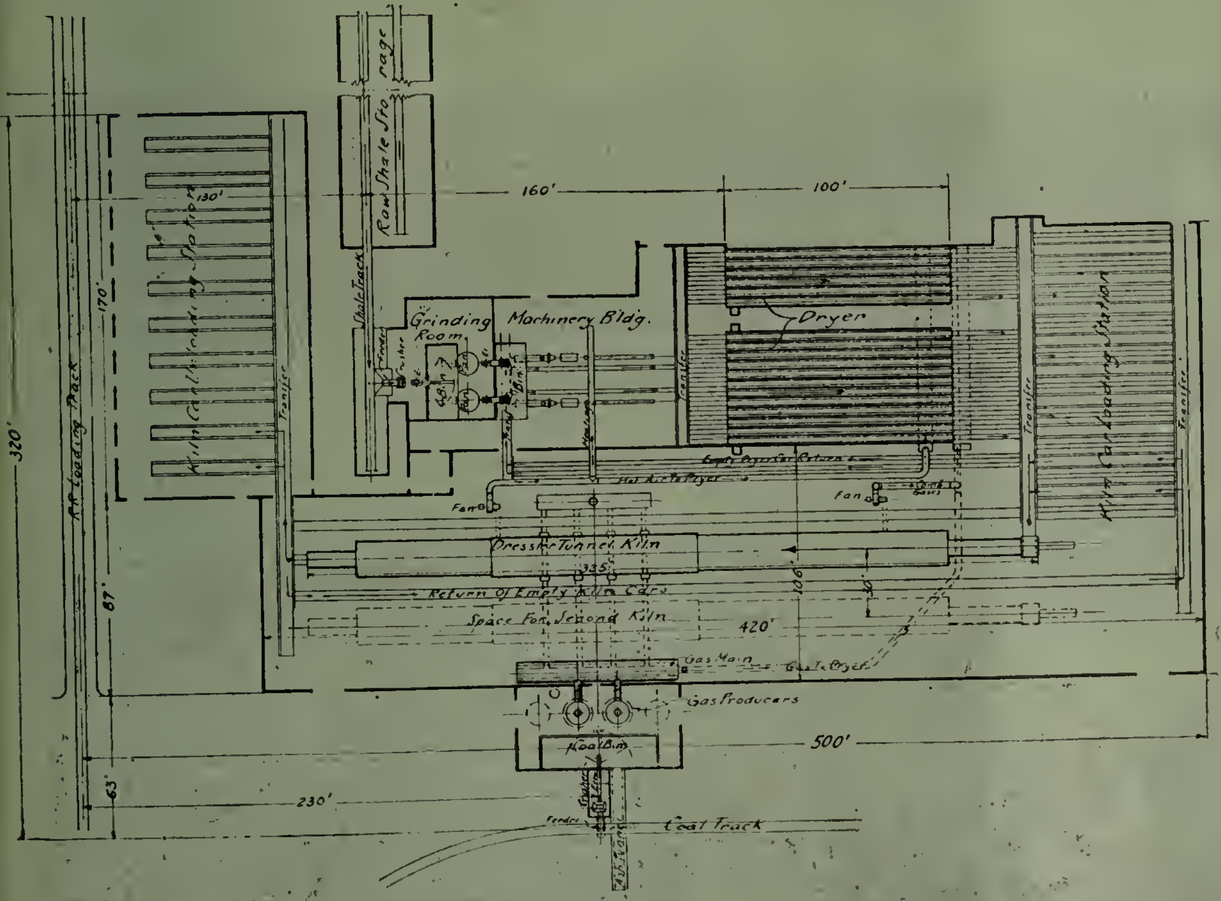
Even in the materials used in construction does the Franklin Brick & Tile Co. plant differ from others. The factory buildings were put up with an attractive rough texture face brick exterior. Common brick were only used for inner courts and for the rear of the plant. All of the brick used for building the kiln, outside of fire brick, were made by the Franklin Brick & Tile Co. in their number one factory, located but a few hundred feet from the new plant.

In connection with the construction of the plant, it is interesting to note the following figures which indicate to some extent, the magnitude and extent of the factory. The total area of the plant is 95,000 square feet and the cubical contents (including depressed tracks and flues) is 1,620,000 cubic feet. It took 2,500 cubic yards of concrete for construction purposes and 1,000,000 brick, not including the brick required for the kiln. Four hundred thousand board feet of timber, including forms, were used in the construction of the plant and 13,000 feet of rail inside of the factory alone, not including the rail spur track and the tracks to the clay pit.

The raw material is secured from a deposit of shale which is located about one-quarter of a mile from the plant. The bank that is being worked is about 25 feet high, 18 feet of which is a blue shale covered by 8 feet of soft yellow shale. The blue shale breaks up quite easily without drilling or blasting. The clay is dug out of the pit by a Marion steam shovel, which was removed from the old plant and has given long, steady service.

DESCRIPTION OF SHALE CRUSHER UNIT

The shale is placed by the shovel into steel, rocker, side dump cars of the International Clay Machinery Co. design. These cars, which are of 2½-yard capacity, are hauled in a train of two, by a powerful six-ton Fate gasoline engine and delivered to the plant. The train shed is built above a substantial wooden trestle and is really an enclosed building by itself with windows



This Plan Drawing Gives One a Good Idea of the General Layout of the Plant and the Arrangement of the Various Departments and Equipment.

Bottom of Raw Clay, Steel Hopper Which Leads to a Reciprocating Feeder.

EQUIPMENT AT THE FRANKLIN BRICK & TILE PLANT—COLUMBUS, O.

Uniformity of the burns at the Franklin Brick and Tile Company ARE DUE—

To the excellent control of the kilns, which is accomplished by means of

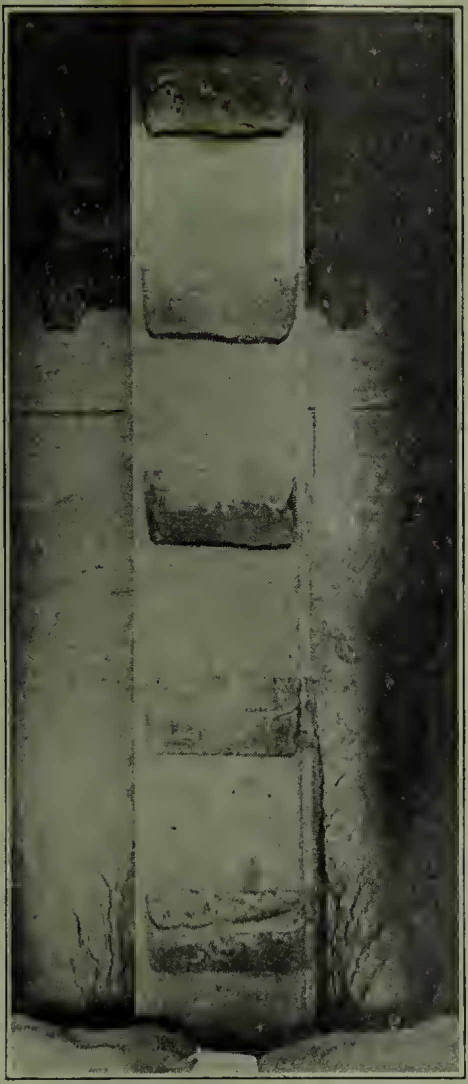
Brown Pyrometers

The kiln is 325 feet long, and varies in temperature from room heat to 2,000 degrees Fahrenheit. For the successful operation of the kiln, it is necessary that certain sections depending upon their location, be at a constant temperature somewhere in the above range.

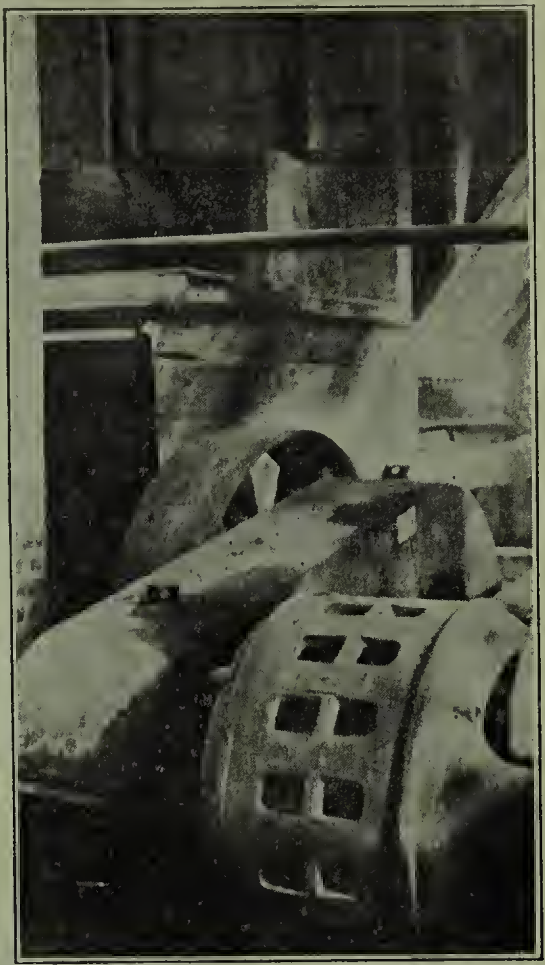
BROWN PYROMETERS are invariably the choice of the progressive clay plants. They enable the burner to fire intelligently, saving coal and producing better ware. You, as brick manufacturers, are facing years of prosperity, and can find out at our expense, exactly what BROWN PYROMETERS will save you in your plant.

Write today—**now,** for complete information to the Brown Instrument Co., 4503 Wayne Ave., Philadelphia, or one of their district offices in New York, Pittsburgh, Detroit, Chicago, St. Louis, Denver, San Francisco, Los Angeles or Montreal.

Mounting and Driving Unit for the Large Ten Foot Dry Pans.

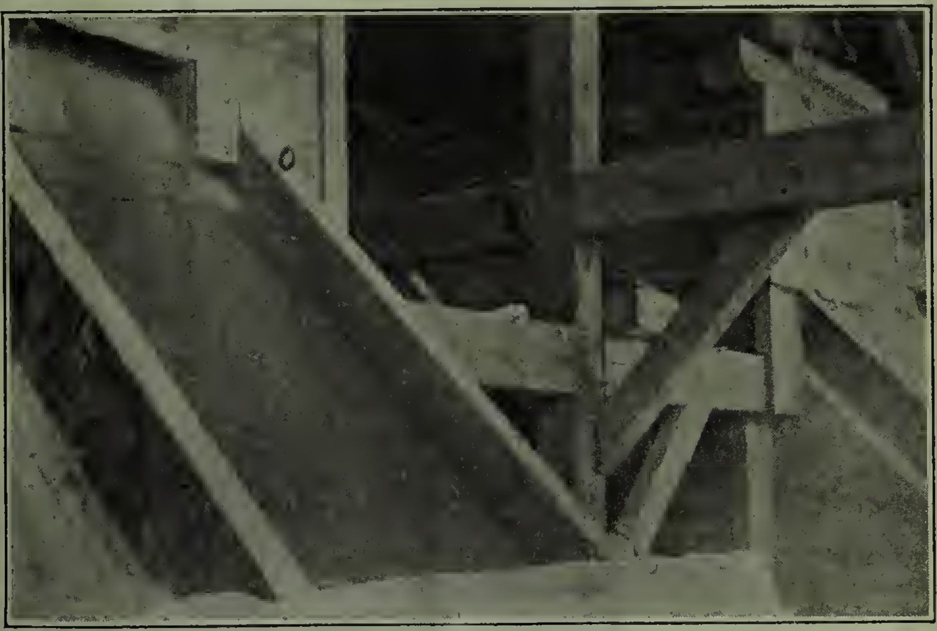


View on Right is Upper Part of Elevator Housing Showing the Ease With Which Repairing Might be Done.



Electric Motor and Link-Belt Transmission for Crusher Unit. Crusher is in Background.

End View of Pugmill. Disc Feeder in Background. Return Elevator for Scrap on Right.



Piano Wire Screens Located Above Dry Pans. Attendant is in Charge to Watch Proper Operation.

and garage door forming an annex to the grinding room.

The shale is dumped into a large steel pocket, which will hold approximately ten cars of clay. The pocket is located above a plate feeder and crusher. The shale is fed by gravity into a plate feeder, which is a reciprocating device and drops uniform quantities of shale into the mouth of a one-roll tooth crusher furnished by the Stevenson Co. The feeder is driven from the crusher drive, hence starts and stops with the crusher. However, the feeder pulley is provided with a clutch so that the feeder can be started or stopped independently. The crusher is driven by an Allis-Chalmers, 40 horsepower induction motor and the connection to the machine is made by a Link-Belt silent chain drive. A Leviathan canvas belt connects the reciprocating feeder with the motor.

Besides feeding a uniform and constant quantity of clay into the feeder automatically, thus eliminating labor, the clay feeder is an insurance against accidents since a man, should he fall into the hopper, would have ample time to climb out unharmed.

Crushed shale is elevated into a large storage bin. The elevator is 48 feet high and the buckets are 16 inches wide, enabling it to take care of 200 tons of shale per day. The elevator housing is built of brick up to the top floor and from there on it is constructed of frame and widened out considerably so that a man can walk clear around to inspect the condition of the belt and make repairs on belt and buckets. The elevator has no regular boot, and instead, a special construction which automatically takes care of any slack in the belt without take-up screws, is substituted. The elevator is driven by an individual drive composed of a 10-horsepower Allis-Chalmers induction motor with Link-Belt transmission.

An enclosed distributing spout is placed between the elevator discharge and the gravity hopper storage bin. The crushed and stored shale is taken from the bottom of the bin by two plate feeders, one for each dry pan. These feeders which are recipro-

EQUIPMENT AT THE FRANKLIN BRICK & TILE PLANT—COLUMBUS, O.

SIL-O-CEL Prevents Heat Penetration

FRANKLIN KILNS

Insulated with Sil-O-Cel

No greater compliment could be paid a product than to be specified and used in one of the largest and most modern hollow ware plants, viz., The Franklin Brick & Tile Co.

The choice of Sil-O-Cel with its superior insulating qualities was in direct keeping with the designing engineer's ideas of efficiency and economy.

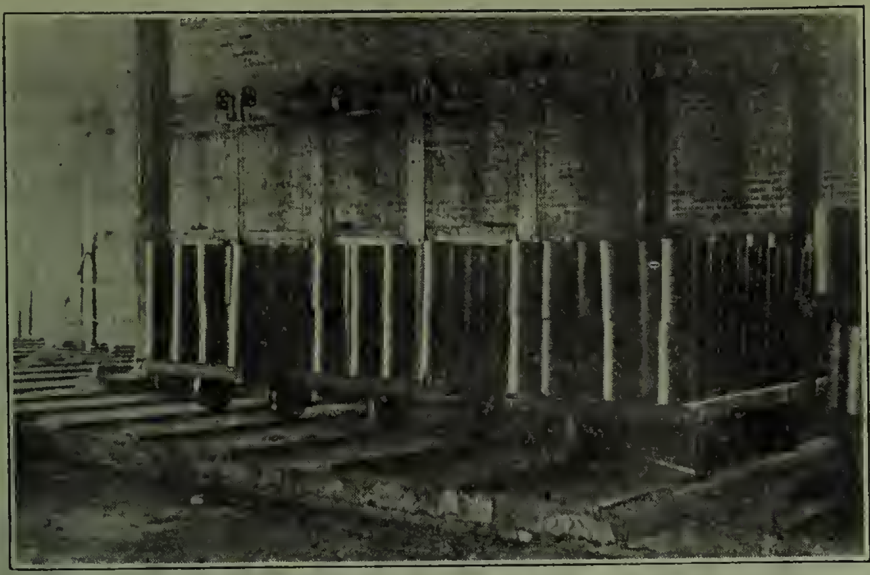
You will be interested from a Clay Plant operator's point of view whether you are repairing, rebuilding or constructing new kilns of any type, in learning more about the characteristic properties and advantages of Sil-O-Cel which has received such widespread recognition by Clay Plant owners throughout the entire country in modern kiln design.

Write for Bulletin SP.

CELITE PRODUCTS COMPANY

NEW YORK, 11 BROADWAY
PHILADELPHIA, LIBERTY BLDG
PITTSBURGH, OLIVER BLDG
CLEVELAND, GUARDIAN BLDG
DETROIT, BOOK BUILDING
CHICAGO, MONADNOCK BLDG
ST. LOUIS, 1532 OLIVE STREET
LOS ANGELES, VAN NUYS BLDG
SAN FRANCISCO, MONADNOCK BLDG

Note bags of Sil-O-Cel along rear wall. Sil-O-Cel was used in insulating walls and crown of the kiln.



Entrance End to Dryer. This Part Connects Directly With the Machine Room. Note the Drain Tile on the Cars Preparatory to Being Placed Into the Dryer.

Setting Section. The Kiln Cars Run on Depressed Tracks and the Dryer Cars on Platforms Between the Kiln Cars, Which Arrangement Facilitates Setting.

cating, and of the same type as that which feeds the crusher, were made by the Manufacturers Equipment Co. The grinding machinery comprises two, 10-foot Stevenson dry pans with gravity hopper bottoms. The pan foundation was much simplified by letting ground shale form its own hopper. The top of the rim of the pan is 3 feet above ground and the elevator pit is 14 feet below ground, thus insuring a steady flow of the fine material. The supports of the dry pans are heavy concrete pillars. The dry pans are driven by individual transmission composed of an electric motor and silent chain.

ONE MAN IN CHARGE OF GRINDING

The storage bin, which is the recipient of the crushed shale, and which feeds the dry pans, is constructed of six inch plank. The center is prevented from bulging out by means of vertical steel channels and tie rods between, running across the bin. The load above the posts is carried by 20-inch I beams.

The ground shale is elevated, screened over piano wire screens and stored. Piano wire screens are only temporary and it is quite likely that another type will be substituted later. Altho they are of good construction, they require the constant service of an attendant. The ground clay elevators are constructed in the same manner as the crusher elevator, except that they are 52 feet high. They, too, have individual drives composed of an electric motor and silent chain transmission.

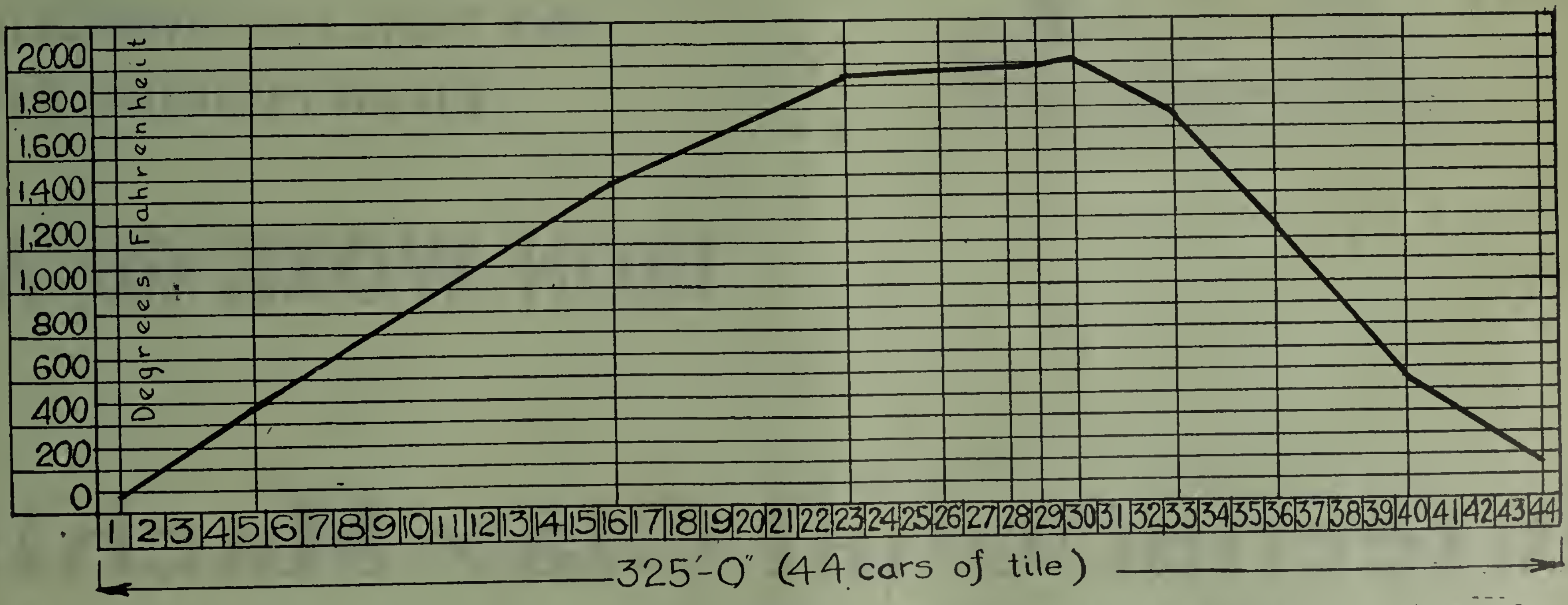
The grinding room is dustproof and arranged so that one man is able to look after it even with a capacity of 200 tons per day. It will be admitted this is a tremendous saving in labor requirement. The total storage within the factory of crushed and ground shale mounts to 450 tons, which gives over four days' run under the present capacity of 100 tons per day.

The ground shale is fed into hoppers at the bottom of which are disc feeders which feed a constant and uniform supply of clay into a large 12-foot Bonnot pug mill. There are two pug mills of this type, each feeding tempered clay into a Brewer tile machine of the vertical auger type. The pug mills are only sixteen feet apart, one being a right-hand and the other a left-hand pattern with the drives outside and the feeders inside, making it possible for one man to attend both units. Each pug mill is individually driven by a 40-horsepower motor and silent chain drive. A special number of windows has been provided above the pug mills to make the space light and airy.

COMBINATION DRYER USED

The Brewer tile machines are also driven individually by 100-horsepower induction motors and silent chain drive. Drain tile are made up to 10 inches inside diameter on the horizontal machines. For larger sizes, a vertical tile press is used. In the case of the transmission of these machines, the silent chain drives are enclosed in dustproof housings and run in oil. One chain drive is 3 feet long and the other 5½ feet.

While the machinery was selected for making hollow building tile and drain tile, it is also possible to manufacture brick since sufficient room has been left for a brick cutter, and an offbearing belt between the machinery and dryer transfer. Of



Graph of Heat Control in Kiln. The Vertical Lines or Ordinates Represent Points Along the Kiln Where the Pyrometer Couples are Located and Where the Heat Measurements are Taken. The Blocks on the Bottom of the Curve Represent the Cars in the Kiln.

Internation

USED

FRANKLIN BRI

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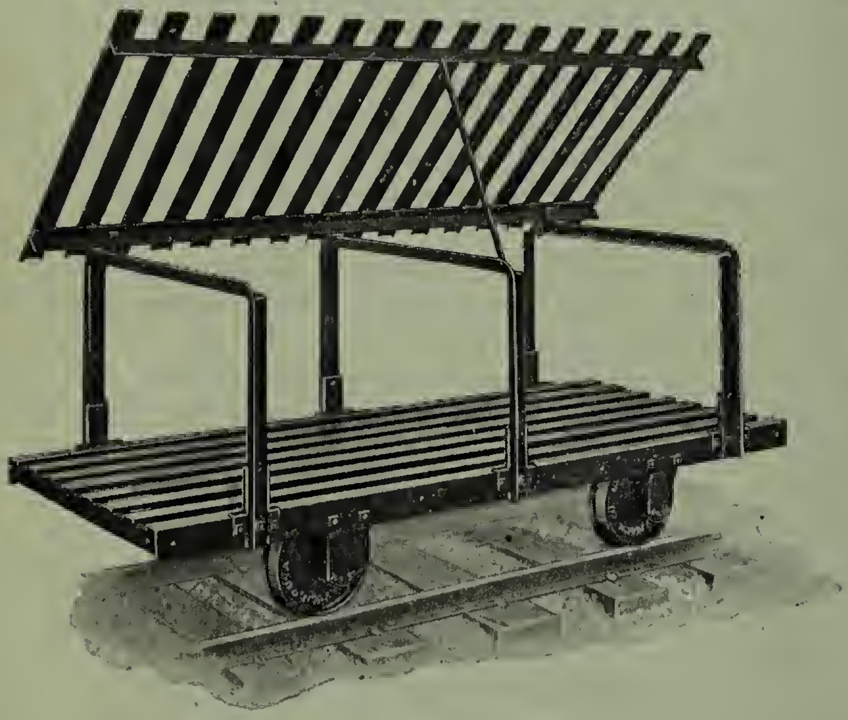
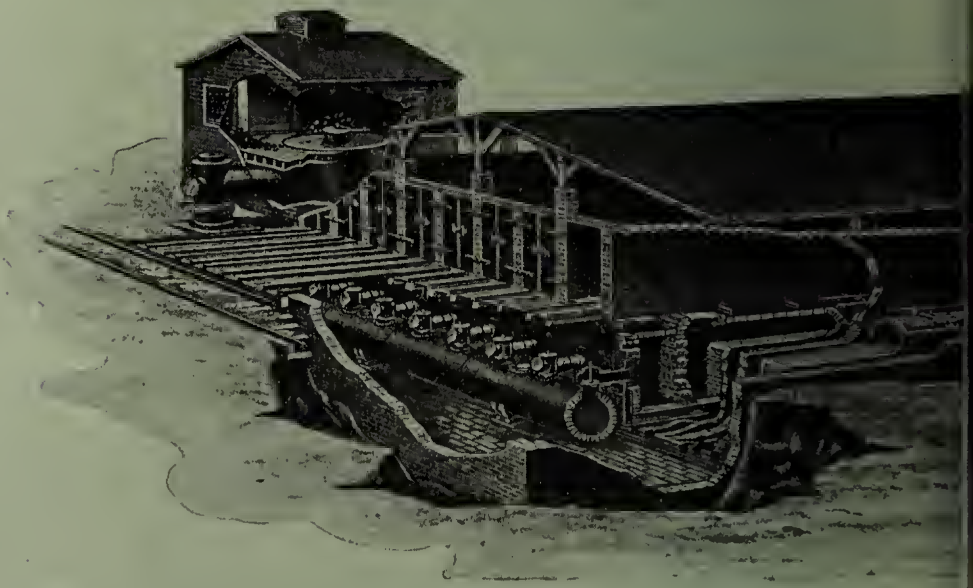
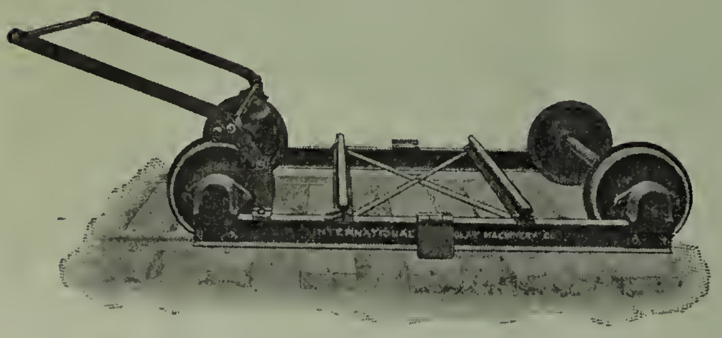


300 Dryer Cars



20 Tunnels Internation
Fired Metallic Radia



Single and Double Transfer Cars

IRON WORK for AM

International Clay Machin

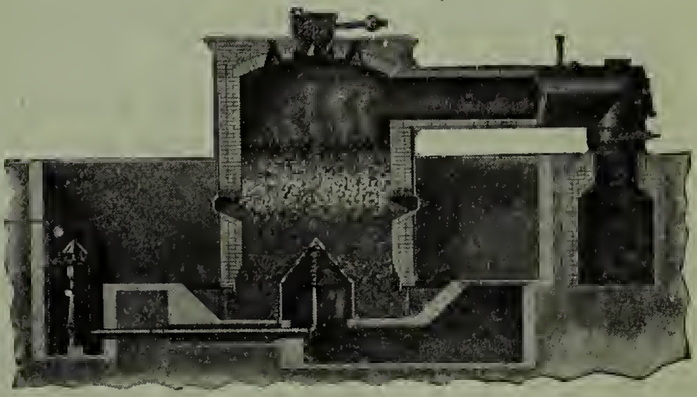
PITTSBURGH NEW

Equipment

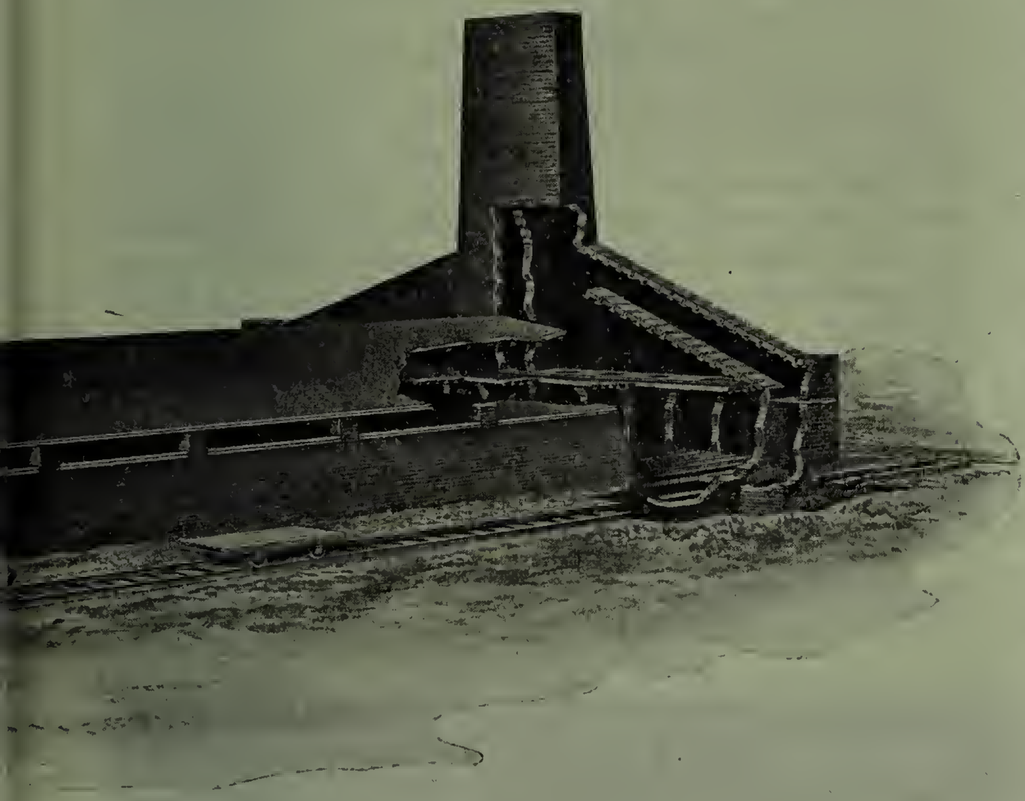
THE

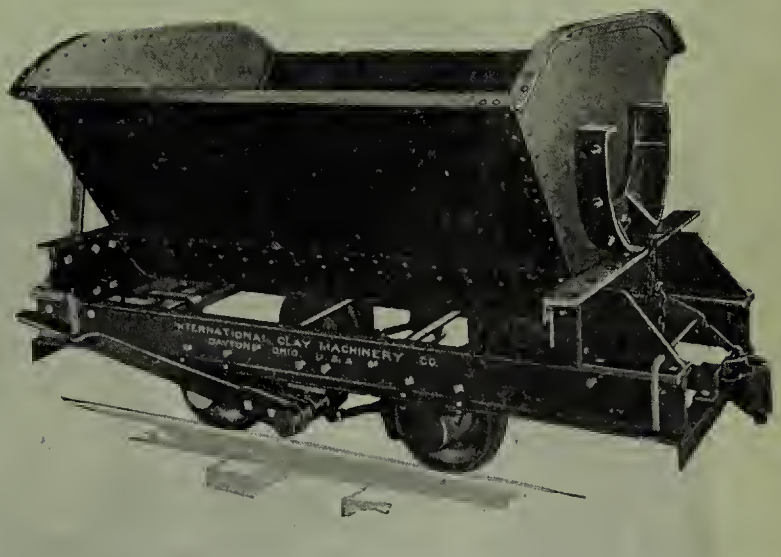
AND TILE CO.

S, OHIO



2--8 ft. Gas Producers




INTERNATIONAL CLAY MACHINERY CO.
DAYTON OHIO U.S.A.

6—Type 60 Heavy Duty Dump Cars

mbination Producer Gas
and Waste Heat Dryer

CAN DRESSLER KILN

y Co., Dayton, Ohio, U. S. A.

K

TORONTO, ONT., CANADA

Exterior View of the Coal Handling and Crushing Unit (in Frame Housing on Left) and the Gas Producer House.

Lower Floor of Gas Producer House and Producers. Steam and Gas Regulating Device is on Extreme Right.

course, the operation of the kiln would then have to be modified somewhat.

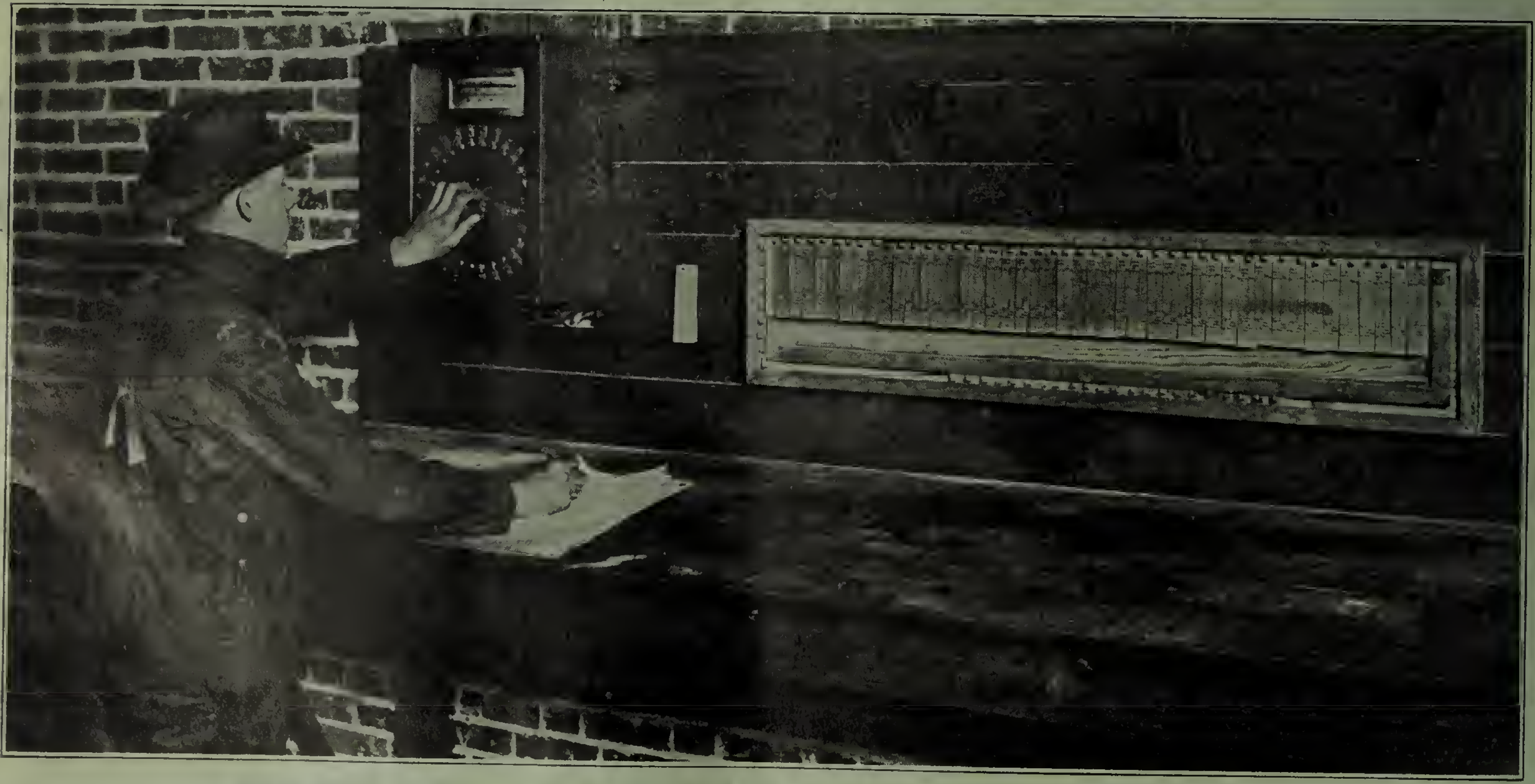
The tile are set on single or double deck dryer cars which were manufactured by the International Clay Machinery Co., and the cars placed on storage tracks in front of the dryer. The dryer is well constructed and is a combination waste heat progressive dryer and radiated heat dryer. The hot air from the cooling end of the kiln, which is clean air, is admitted into the tunnels of the dryer in the same manner that waste heat in an ordinary waste heat dryer is admitted into the tunnel. In this way, the gases that come into contact with the ware are clean and thus do not scum the product or deteriorate the cars or equipment.

The combustion gases from the kiln or producer gas from the gas main is introduced in flues beneath the dryer tunnels and this section operates like an ordinary radiated heat dryer. In winter the hot air from the cooling kilns may be used for factory heating and in the event that the combustion gases alone do not give sufficient heat for drying, producer gas can be used and the operation of the dryer is simply that of a producer gas fired radiated heat dryer.

Two large Clarage fans are employed to deliver the hot gases from the kiln to the dryer. One of the fans draws the combustion gases while the other draws the cooling gases. These two fans, together, deliver 30,000 cubic feet of gases to the dryer, each minute, 24 hours each day. The hot gases are mixed with cold air so as to deliver the gases to the dryer at a temperature of about 220 deg. F. Both fans have water-cooled bearings.

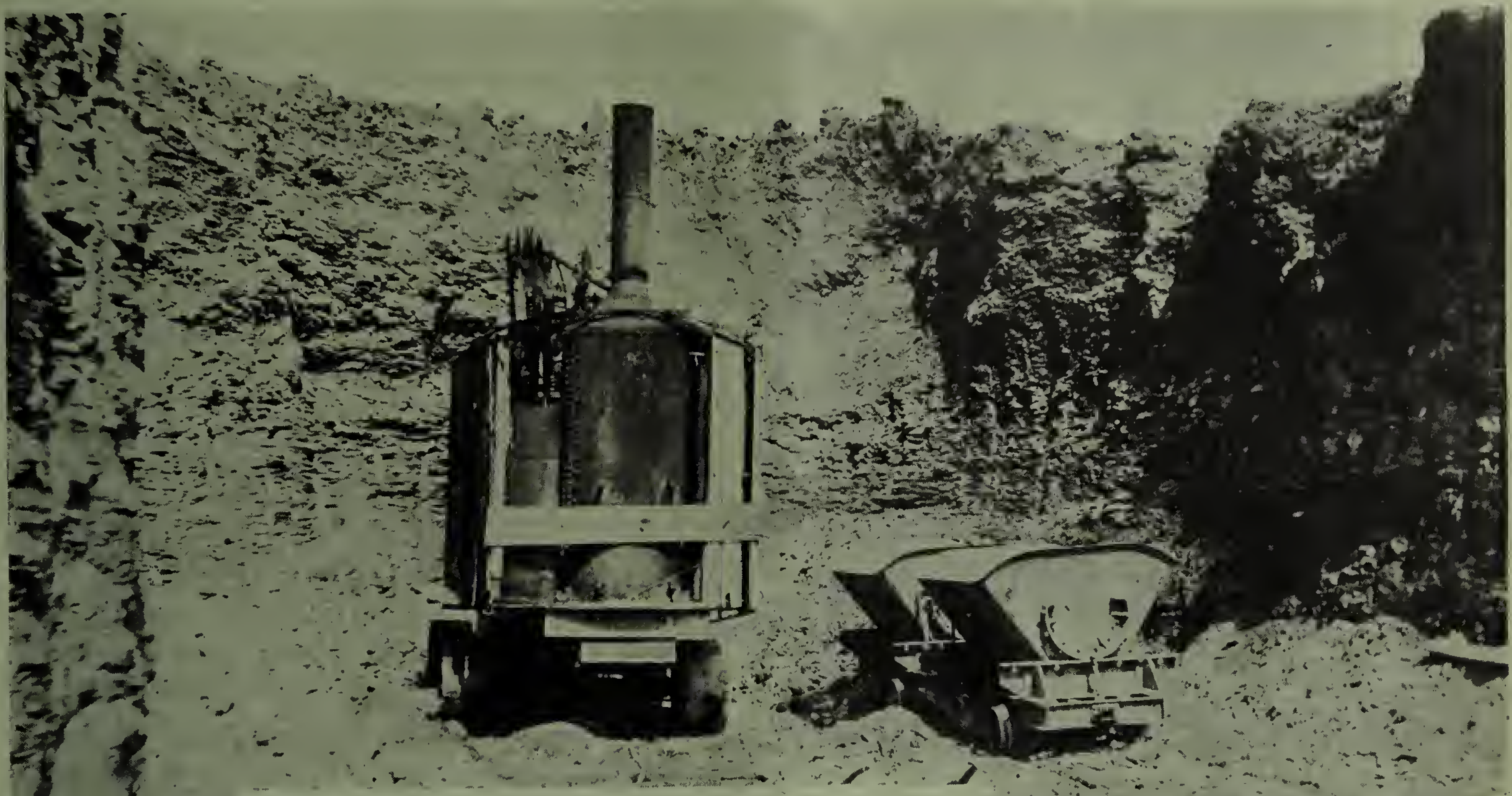
CONSTRUCTION OF DRYER

The dryer which is of the International Clay Machinery Co. design, is built of 8-inch hollow tile walls with rail ties running clear thu the cast iron clips. The top of the dryer was built of cast iron tees with 12-inch hollow tile crossways, and on top of it all, a layer of concrete 4 inches thick with a 5-ply pitch and gravel roof. The slope of the dryer is 15 inches to 100 feet. The dryer is built in 1½ units, 12 tunnels forming one unit with one stack at the end above the dryer where the ware enters. The other six tunnels have been set over 10 feet, allowing for the vertical flues leading to the stack, and allowing for a passage between the units connecting the receiving tracks and cooling tracks. From the cooling tracks the dryer cars are, by transfer, taken over the so-called kiln loading station, which has depressed tracks for the kiln cars between the dryer car tracks. The depression of the kiln cars



The Pyrometer Instrument Which Records the Temperatures of the Kiln and Enables Complete Control of the Kiln. Note the Unique Board for Keeping Tab of the Progress of the Individual Cars. Each Card Has Recorded on It the Kind of Ware, Order No and Other Important Data.

EQUIPMENT AT THE FRANKLIN BRICK & TILE PLANT—COLUMBUS, OHIO



IN 1905 the Franklin Brick and Tile Company purchased a Model 20 "Marion" and installed it in their No. 1 Plant. It has now been moved to their new plant where it continues to give the same satisfactory service that it gave sixteen years ago.

At that time Marion built the **best** excavating machinery. Today Marion still occupies the place she earned for herself through the accomplishments of her products during those years. The reason she has held this place is easily seen. Whenever a need for better machinery was found to exist Marion heeded the call and was always first to answer it. Many models built in the past are out of production today. The march of progress and Marion engineering ability have made them so.

Information as to how to make your plant more profitable, places you under no obligations.

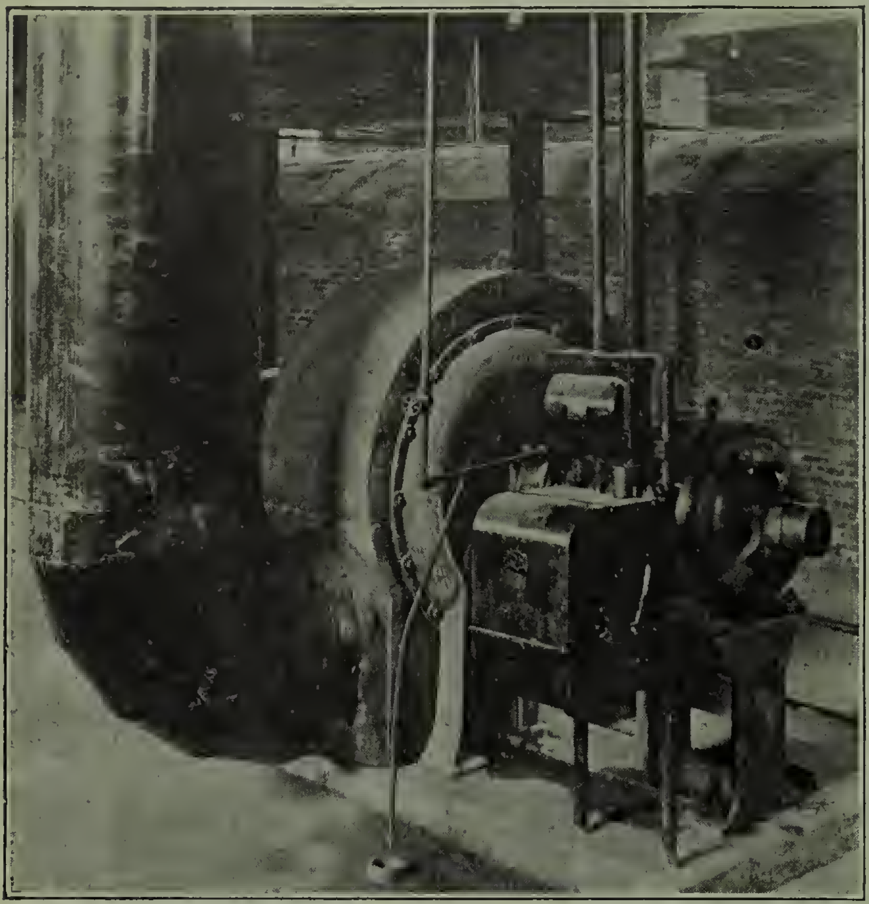
THE Marion STEAM SHOVEL CO.
Established 1884 **Marion, Ohio**

EVERYWHERE RELIABLE THE Marion STEAM SHOVEL CO. ESTABLISHED 1884

New York Chicago Atlanta San Francisco

Boise, Idaho, - Clyde Equipment Co.
Billings, Mont., F. B. Connelly Co.
Dallas, - F. B. Wright, Bush Bldg.
Denver, - - - H. W. Moore & Co.
Detroit, W. H. Anderson T. & S. Co.
Philadelphia, H. L. Cox, 13 & Cherry
Pittsburgh, - - - J. W. Patterson
Portland, - - Clyde Equipment Co.
Salt Lake City, H. W. Moore & Co.
Seattle, - - Clyde Equipment Co.
Vancouver, - - - - - - - - - - - - Vancouver Machinery Depot, Ltd.
Montreal, Toronto, - - - - - - - - - - - - F. H. Hopkins & Co., Ltd.

are a great aid to economical handling of the ware. The floor and retaining walls of the kiln car loading station are built of concrete and all rails have been imbedded in concrete on steel ties 7 feet on center. This type of construction is carried out thruout the entire plant.



One of the Fans Which Accomplishes the Transference of the Hot Gases from the Kiln to the Dryer.

A setting gang of eight men is employed to place the ware taken from the dryer cars on to the kiln cars. These cars are large trucks built by the Atlas Co. measuring 7 feet long by 6 feet wide and covered with refractories which act as a support for the ware.

The drain tile are set on a car in the manner shown in the accompanying photograph and the smaller size tile are placed inside of the larger tile. Approximately 2⅔ tons of drain tile are set on each kiln car. One hundred and fifteen tons of ware are set on the cars each day in 10 hours by the setting gang of eight men.

One car is placed in the kiln, which is of the well known Dressler continuous car tunnel kiln type, approximately every 38 minutes. The kiln is 325 feet long and accommodates 44 cars. The cars are pushed gradually and slowly thru the kiln and as they pass further into the kiln, the heat becomes more intense until they finally reach the hot zone. Then as the car continues to progress thru the tunnel it is cooled and finally when it reaches the end of the kiln is cooled sufficiently for handling. It takes approximately 31 hours for a car of ware to be passed thru the kiln, in which time it is completed, water-smoked, oxidized, heated-up, matured and cooled.

KILN IS FIRED WITH PRODUCER GAS

The kiln is under roof and in a regular structure, and the reason for the room not being exceptionally hot is due to the insulation of the kiln which is composed of Sil-O-Cel. Incidentally, this insulation also makes possible a great reduction in the heat losses due to radiation since there is very little of this.

The kiln is fired with producer gas, four burners being placed on each side of the kiln. The soaking pit of the kiln is about 70 feet long. This kiln is capable of producing 100 tons of ware per 24 hours. Space has also been provided for the construction of another Dressler kiln, the contract for which is expected to be let this summer. All flues and equipment have been purchased and arranged for with this purpose in view.

A Brown pyrometer with thermocouples distributed thruout various points along the length of the kiln, enables the concern to have complete control over the heat distribution and kiln operation. A unique method of registering temperatures and keeping track of the kiln operation and progress of the fires is in use. A board with small movable blocks upon which may be attached the card representing each car traveling thru the kiln, is moved along a slot simultaneous with the progress of the car it represents in the kiln. One man is in charge of the pyrometers, and does nothing but keeps records and check up the draft and burner conditions about the kiln.

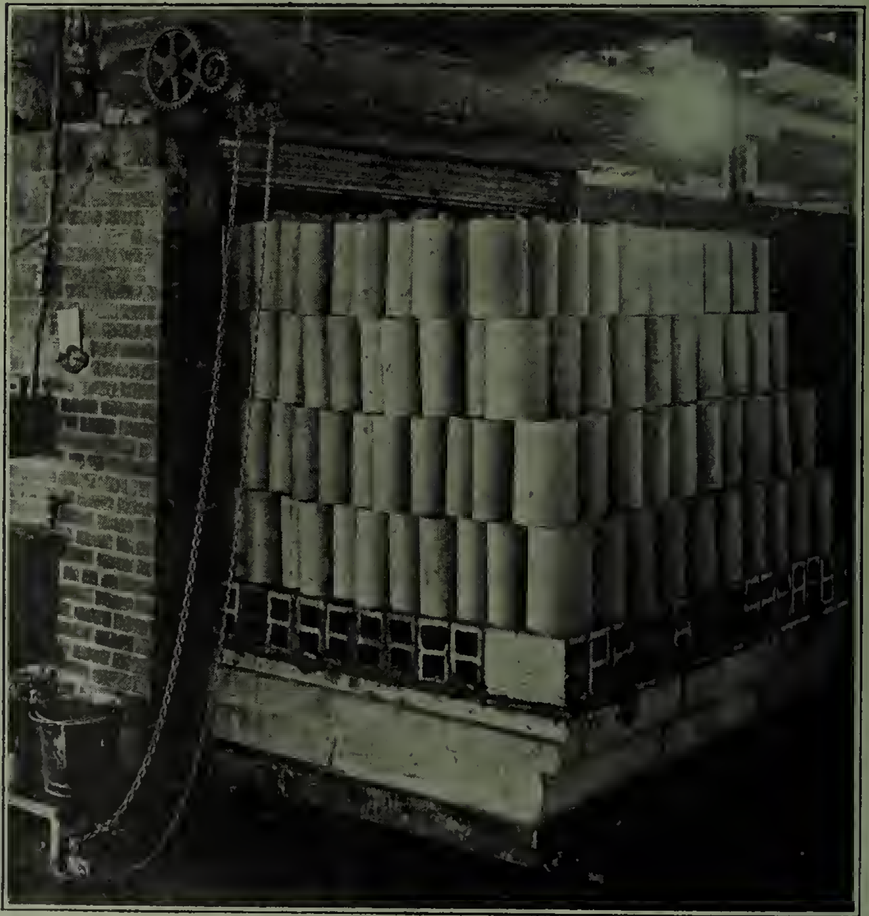
The fuel consumption using this type of kiln is approximately eight to ten tons of coal per 100 tons of ware produced. This amount of fuel furnishes the heat for both the kiln and the dryer. This compares with 20 to 25 per cent. of fuel required per 100 tons of ware in the case of periodic kilns.

The cars are pulled out of the kiln by windlass and taken to the kiln car unloading station by a transfer car where each truck is pulled off the transfer into one of the depressed tracks of which there are ten, by means of a long shaft with a winding spool and cable for each track. There is room for six to seven cars on each of these ten troughs. The tile are taken from the cars and placed on wheelbarrows of the Arnold-Creager type and wheeled into the railroad cars or stock shed.

COAL CRUSHER AND HANDLING UNIT

The producer house is built as an annex to the kiln building. It is separated by a brick wall and connected by doors. Two, 8 foot diameter International gas producers are taking care of one kiln but space has been left for two more producers, one on each side of the present ones.

The coal as it is received, is dumped into a hopper and then on to a reciprocating feeder, manufactured by the Columbus Conveyor Co., which delivers the coal into a 24 inch single roll crusher. The coal is crushed for use in the gas producer and is gravitated on to a 44 foot continuous bucket elevator, made by the Columbus Conveyor Co. This conveyor discharges



Car Loaded With Drain Tile In Act of Being Placed Into Tunnel Kiln. Note that Smaller Tile are Set Inside of Larger Tile.

Equipment at the Franklin Brick & Tile Plant, Columbus, Ohio

"The Tile and Hollow Ware are Placed on Wheelbarrows of the Arnold Creager Type and Wheeled into the Cars or Stock Sheds."

No. 35 Brick Barrow, air dried white oak frame, 57¼ inches long, dash 18 inches high, bottom 29½ inches long; one 16-inch cast wheel with heavy 1½-inch tire, axles mounted in self-oiling block-bearings.

No. 2 A Brick Barrow fitted with self-oiling roller bearings, absolutely dust proof.

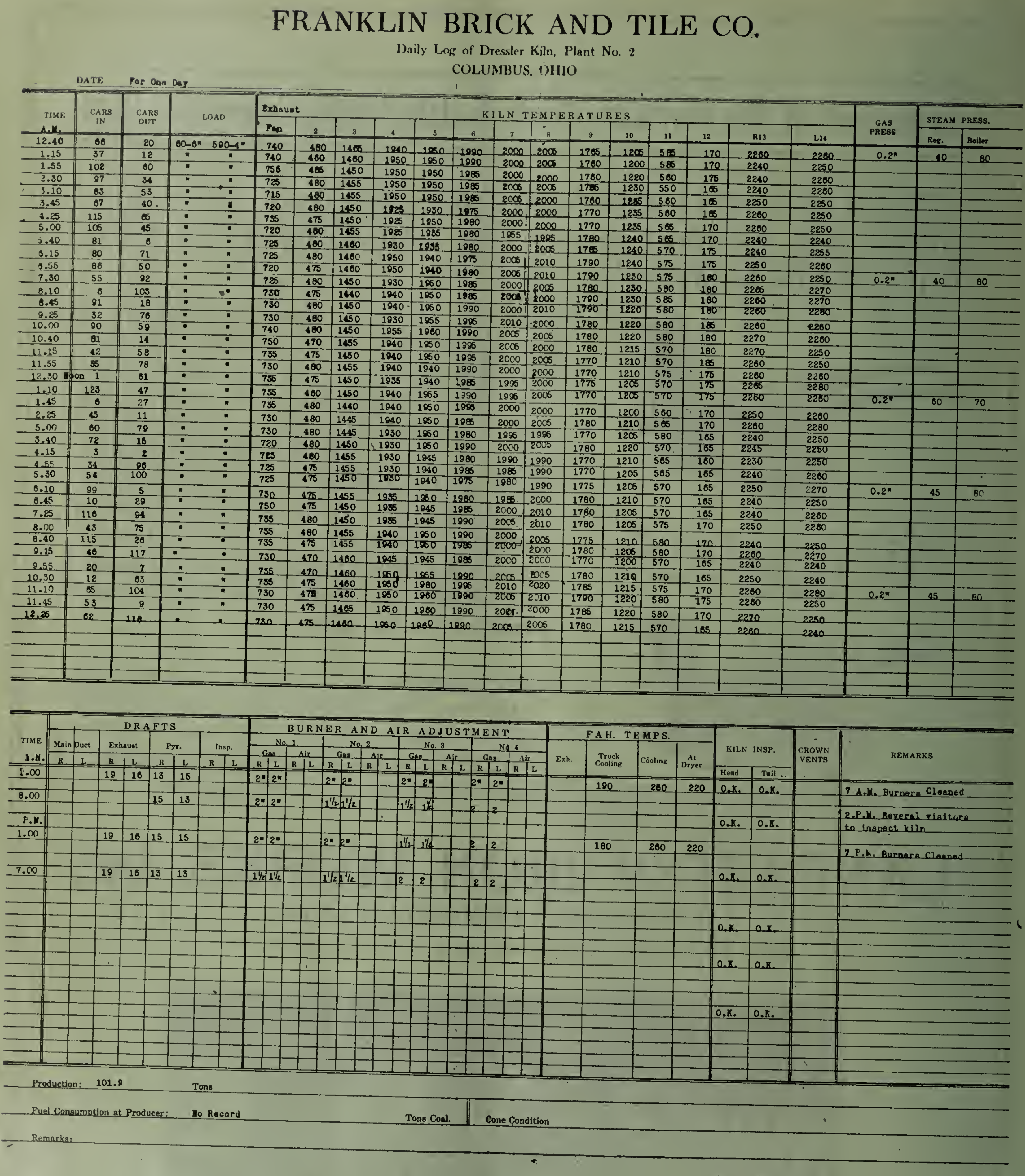
Just a part in the daily operations of the Franklin Brick & Tile Co. Plant, Columbus, Ohio. The rugged construction, simplicity of design, excellent workmanship and perfection of balance of the ARNOLD-CREAGER WHEELBARROWS convinced the Franklin Brick & Tile Co., as it has convinced so many others, that they were the only wheelbarrows for absolute satisfaction in the handling of clay products in the plant.

If you need a more economical way of handling your ware, let us know. We will be glad to send you complete information or have one of our engineers pay you a visit. No obligation.

LANCASTER IRON WORKS, Inc.

LANCASTER, PENNSYLVANIA

Brick Machinery Department, Jas. P. Martin, Manager



FRANKLIN BRICK AND TILE CO.

Daily Log of Dressler Kiln, Plant No. 2
COLUMBUS, OHIO

DATE For One Day

TIME	CARS IN	CARS OUT	LOAD		Exhaust	KILN TEMPERATURES													GAS PRESS.	STEAM PRESS.	
A.M.					Fan	2	3	4	5	6	7	8	9	10	11	12	R13	L14		Reg.	Boiler
12.40	66	20	60-6"	590-4"	740	480	1465	1940	1950	1990	2000	2005	1765	1205	565	170	2260	2260	0.2"	40	80
1.15	37	12	"	"	740	460	1460	1950	1950	1990	2000	2005	1760	1200	585	170	2240	2250			
1.55	102	60	"	"	755	465	1450	1950	1950	1985	2000	2000	1760	1220	560	175	2240	2260			
2.30	97	34	"	"	725	480	1455	1950	1950	1985	2005	2005	1765	1230	550	165	2240	2260			
3.10	83	53	"	"	715	480	1455	1950	1950	1985	2005	2000	1760	1235	560	165	2250	2250			
3.45	67	40	"	"	720	480	1450	1925	1930	1975	2000	2000	1770	1235	560	165	2260	2250			
4.25	115	65	"	"	735	475	1450	1925	1950	1980	2000	2000	1770	1235	565	170	2260	2250			
5.00	105	45	"	"	720	480	1455	1925	1935	1980	1955	1995	1780	1240	565	170	2240	2240			
5.40	81	6	"	"	725	480	1460	1930	1935	1980	2000	2005	1785	1240	570	175	2240	2255			
6.15	80	71	"	"	725	480	1460	1950	1940	1975	2005	2010	1790	1240	575	175	2250	2260			
6.55	86	50	"	"	720	475	1460	1950	1940	1980	2005	2010	1790	1230	575	180	2260	2250	0.2"	40	80
7.30	55	92	"	"	725	480	1450	1930	1950	1985	2000	2005	1780	1230	580	180	2265	2270			
8.10	6	103	"	"	730	475	1440	1940	1950	1985	2006	2000	1790	1230	585	180	2260	2270			
8.45	91	18	"	"	730	480	1450	1940	1950	1990	2000	2010	1790	1220	580	180	2260	2280			
9.25	32	76	"	"	730	480	1450	1930	1955	1995	2010	2000	1780	1220	580	185	2260	2260			
10.00	90	59	"	"	740	480	1450	1955	1960	1990	2005	2005	1780	1220	580	180	2270	2260			
10.40	81	14	"	"	750	470	1455	1940	1950	1995	2005	2000	1780	1215	570	180	2270	2250			
11.15	42	58	"	"	735	475	1450	1940	1950	1995	2000	2005	1770	1210	570	185	2260	2250			
11.55	55	78	"	"	730	480	1455	1940	1940	1990	2000	2000	1770	1210	575	175	2260	2260			
12.30 Noon	1	61	"	"	735	475	1450	1935	1940	1985	1995	2000	1775	1205	570	175	2265	2280			
1.10	123	47	"	"	735	460	1450	1940	1955	1990	1995	2005	1770	1205	570	175	2260	2260	0.2"	60	70
1.45	6	27	"	"	735	480	1440	1940	1950	1995	2000	2000	1770	1200	560	170	2250	2260			
2.25	45	11	"	"	730	480	1445	1940	1950	1985	2000	2005	1780	1210	565	170	2260	2280			
5.00	60	79	"	"	730	480	1445	1930	1950	1980	1995	1995	1770	1205	580	165	2240	2250			
3.40	72	15	"	"	720	480	1450	1930	1950	1990	2000	2005	1780	1220	570	165	2245	2250			
4.15	3	2	"	"	725	460	1455	1930	1945	1980	1990	1990	1770	1210	565	160	2230	2250			
4.55	34	96	"	"	725	475	1455	1930	1940	1985	1985	1990	1770	1205	565	165	2240	2260			
5.30	54	100	"	"	725	475	1450	1930	1940	1975	1980	1990	1775	1205	570	165	2250	2270	0.2"	45	80
6.10	99	5	"	"	730	475	1455	1935	1950	1980	1985	2000	1780	1210	570	165	2240	2250			
6.45	10	29	"	"	750	475	1450	1955	1945	1985	2000	2010	1780	1205	570	165	2240	2260			
7.25	116	94	"	"	735	480	1450	1955	1945	1990	2005	2010	1780	1205	575	170	2250	2260			
8.00	43	75	"	"	735	480	1455	1940	1950	1990	2000	2005	1775	1210	580	170	2240	2250			
8.40	115	26	"	"	735	475	1455	1940	1950	1985	2000	2000	1780	1205	580	170	2260	2270			
9.15	46	117	"	"	730	470	1460	1945	1945	1985	2000	2000	1770	1200	570	165	2240	2240			
9.55	20	7	"	"	735	470	1460	1950	1955	1990	2005	2005	1780	1210	570	165	2250	2240			
10.30	12	63	"	"	735	475	1460	1950	1980	1995	2010	2020	1785	1215	575	170	2260	2280	0.2"	45	80
11.10	65	104	"	"	730	475	1460	1950	1960	1990	2005	2010	1790	1220	580	175	2260	2250			
11.45	53	9	"	"	730	475	1465	1950	1960	1990	2006	2000	1785	1220	580	170	2270	2250			
12.25	62	118	"	"	730	475	1460	1950	1960	1990	2005	2005	1780	1215	570	165	2260	2240			

TIME	DRAFTS								BURNER AND AIR ADJUSTMENT																FAH. TEMPS.				KILN INSP.		CROWN VENTS	REMARKS
	Main Duct		Exhaust		Pyr.		Insp.		No. 1				No. 2				No. 3				No. 4				Exh.	Truck Cooling	Cooling	At Dryer				
									Gas		Air		Gas		Air		Gas		Air		Gas		Air									
A.M.	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L					Head	Tail		
1.00			19	16	13	15			2"	2"			2"	2"			2"	2"			2"	2"				190	280	220	O.K.	O.K.		7 A.M. Burners Cleaned
8.00					15	13			2"	2"			1½	1½			1½	1½			2	2										
P.M.																													O.K.	O.K.		2.P.M. Several visitors to inspect kiln
1.00			19	16	15	15			2"	2"			2"	2"			1½	1½			2	2				180	260	220				7 P.M. Burners Cleaned
7.00			19	16	13	13			1½	1½			1½	1½			2	2			2	2							O.K.	O.K.		
																													O.K.	O.K.		
																													O.K.	O.K.		
																													O.K.	O.K.		

Production: 101.9 Tons

Fuel Consumption at Producer: No Record Tons Coal. Cone Condition

Remarks:

Daily Log Sheet on Which Burning Records are Kept by the Franklin Brick & Tile Co. These Records Enable the Superintendent to Tell at a Glance the Progress of an Order or the Daily Production.

Kiln Foreman.................................... Time in
" .... "
" .... "
.... Time out....................................
.... " ....
.... " ....

on to a 12 foot pivoted chute for distribution of the coal on to the producer floor storage. This entire unit takes care of all the coal burned in the producers, which furnishes gas for firing the kiln. A 30 horse power induction motor, which is also equipped with silent chain transmission forms the power requirement for the entire coal-handling unit.

The gas producers are watersealed and provided with regular jet blowers and a Chowing-Westinghouse steam gas regulator, which by regulation of the steam into the producer, controls the gas formation and regulates the gas pressure. In this manner, there is assured a constant and uniform supply of gas to the kiln burners.

Recording instruments called pressure and measuregraphs for steam and gas on the producers, manufactured by the Scientific Materials Co. enable the operators to watch the progress of the producers. Two men operate the producers while one man

EQUIPMENT USED AT THE FRANKLIN BRICK & TILE PLANT, COLUMBUS, OHIO

A Slipping Belt gathers Little Power

Some stretch in a belt is necessary—to give it elasticity.

But most belts stretch *too much.*

And when they stretch beyond a certain point, THEY SLIP.

When THEY SLIP, they lose their grip—they waste power, they wear out quickly, they cause shut-downs for cutting, they obstruct production.

* * *

The best way to prevent these costly evils is to buy belts that *DON'T STRETCH* beyond that certain point.

Are there such belts?

Yes.

LEVIATHAN and ANACONDA Belts.

LEVIATHAN and ANACONDA Belts are subjected to our exclusive process of *tensation,* by which *excessive stretch is removed before the belts leave our factory.*

* * *

LEVIATHAN and ANACONDA Belts are sold under an absolute guarantee—the only guarantee of its kind in the world.

It says:

> **LEVIATHAN and ANACONDA Belts, subjected to our exclusive process of Tensation, stretch less, last longer and give better service than any other make or type of belt. If your experience fails to prove this, we will refund the purchase price, you being the sole judge.**

And this guarantee is backed up by a business institution whose integrity you have known about for more than a generation.

LEVIATHAN AND ANACONDA GUARANTEED AGAINST STRETCH BELTING

MAIN BELTING COMPANY, Philadelphia

New York Boston Chicago Pittsburgh San Francisco

Leviathan AND Anaconda Belts

TENSATED TO REMOVE STRETCH

Vertical Tile Machine on Which Drain Tile Up to Ten Inches In Diameter are Made.

Kiln Car Unloading Station Where Drain Tile or Hollow Ware Is Transferred to Wheelbarrows and Wheeled Into Freight Cars.

takes care of the ash disposal. All power for the plant is obtained from the old factory which is equipped with a complete power plant and is but a short distance away. Erie boilers are used for the generation of steam and a Corliss engine and dynamo generator set converts it into electricity which is transmitted to the new plant for the operation of all the motors.

RUNNING THIRTY DAY TEST

At the present time a test is being run which will cover the operation of the plant for thirty consecutive days at 100 tons daily capacity. During the period of the test coal and power requirements will be measured. Fifty-five men are employed to handle the production which is a minimum for a plant producing this capacity.

In closing, it should be mentioned that the factory is not a dream plant and is not operated like a charm. Difficulties were encountered and at times they were quite serious. However, the troubles have been ironed out one by one and production is proceeding quite steadily and with hardly any difficulty.

In one instance, some of the pug mill knives had to be set neutral in order to secure better pugging and form better ware. This was due to the peculiarity of the clay and to no fault of the machinery, design or system. The clay has a high shrinkage and it is required to be cut in lengths of 13-½ inches in order for the burned length to be 12 inches. The peculiarities of the clay asserted itself in difficult handling in several other points but these were also eliminated by study and proper changes in methods. The result of the factory design and the installation of labor saving equipment, and the effort to eliminate all irregularities, has been the manufacture of a high grade product made in quantity production and at a low cost.

* * *

TESTS PROVE LIME-CEMENT MORTAR BEST

SOME highly interesting and startling facts have been revealed by a book recently published by the National Lime Association. The book treats on the relative merits of pure cement mortar, lime-cement mortar and pure lime mortar. No doubt brick manufacturers are interested in this subject and a resumè of the book follows:

Until recently and ever since brick were first used for building purposes straight lime mortar has been used to bed them. There are several reasons why lime mortar has held predominance over others for so long, chief among them being its easy working qualities and cheapness. It is claimed for lime mortar that it makes a better bed for brick, resists frost to a greater extent and affords greater strength under load.

Lately, however, cement has entered this field as a strong competitor for lime. Its additional cost has raised the question whether the advantages gained justify the extra expenditure. The strength of cement mortar in the case of load bearing walls, parapet walls and where great strength is required, as in chimney tops, was also questioned.

LIME MORTAR GOOD ENOUGH FOR ORDINARY WORK

In order to determine the issues it was decided to make scientific investigations and Professor James S. Macgregor, of Columbia University, undertook the study of a series of tests made on built up columns constructed with various grades of mortar. The facts gleaned from these tests showed that straight lime mortar had sufficient strength for most purposes; that pure cement mortar was not so strong as when lime was added.

Seven different mixtures of mortar were used in making the tests, varying from pure cement mortar to pure lime mortar. Sixty-three piers, 8x8x24 inches, seven sets of nine specimens each, were constructed of face brick purchased in the open market, and tested to destruction. The results of the tests showed that the strongest piers after three months of setting, were those built with mortar mixtures containing by weight ninety pounds of cement, four pounds hydrated lime, and 300 pounds sand.

The column constructed with this mortar registered a crushing strength of 4,435 pounds per square inch. Where the column was built with mortar composed of half and half cement a crushing strength of 3,820 pounds was shown. Pure cement mortar showed but 2,840 pounds per square inch and pure lime mortar 1,950 pounds.

LIME-CEMENT MORTAR STRONGEST

A study of the tests proves that there is a decided advantage in the addition of lime to cement mortars. In the first place the strength is greatly increased and secondly the cost of the brickwork is reduced. The lower cost is due to the fact that hydrated lime is nearly 2½ times as bulky as cement, and as both these materials are purchased by weight lime has a decided advantage over cement. A batch of half-and-half mortar costing the same as a batch of pure cement mortar will, it is claimed, lay about 3/7 more brick than the pure cement mortar.

Most building codes require 100 pounds per square inch as the safe load when using lime mortar in a 1 to 3 mix for common brick, when using face brick this is generally increased to 150 pounds. Ordinary masonry weighs 150 pounds per cubic foot, developing 1.04 pounds pressure for every square inch for each foot in height. From the above it is evident that a self-sustaining wall can be ninety-six feet high before the allowable 100 pounds is reached. The strength of lime mortar is apparently sufficient for any ordinary needs.

* * *

Canadian Mineral Production in 1920

The preliminary report of the mineral production of Canada in 1920, altho incomplete and not absolutely accurate is sufficiently correct to obtain a very comprehensive idea of the extent of the mineral production activity as compared with previous years.

The total estimated value of the metal and mineral production in 1920 was $217,775,080 which is greater than the total value reached during any preceding year. Compared with the production in 1919 valued at $176,686,390 an increase of $41,088,690 or 23.3 per cent. is shown while compared with 1918, the previous maximum year, the increase was $6,473,183 or three per cent.

The total value of all clay products produced was $10,533,271. This includes common and pressed brick, hollow building tile, pottery, refractories and fire clay, sewer pipe, drain tile, terra cotta and kaolins. The common brick total represents an advance of almost 10,000,000 brick over the 1919 production and of pressed brick there were over 7,000,000 more produced in 1920 than in 1919. Sand-lime brick production is increasing by leaps and bounds, the 1920 total showing a gain over the previous year of 12,500,000 brick.

The total production of marketable coal during 1920 was 16,623,598 short tons valued at $77,326,853, or an average of $4.65 per ton, and was the largest tonnage that has been obtained in any one year. The total production in 1919 was 13,681,218 tons valued at $54,413,349, compared with which the 1920 production shows an increase of 2,942,380 tons, or 21.5 per cent. and $22,913,504, or 42.1 per cent. in value.

Shipments of feldspar increased greatly in 1920 being almost double those of the highest previous year's production. Returns received show shipments of 36,856 tons valued at $274,075. Production of feldspar reached a maximum in 1920 of 11,229 tons valued at $260,446.

The tonnage and value of shipments of magnesite in 1920 were greater than those of 1919 but less than the production of the three previous years. The tonnage of crude magnesite quarried during the year was 31,040. 30,230 tons were treated in the calcining and clinkering mills from which was produced 3,152 tons of calcined magnesite and 11,894 tons of clinkered or dead burned material.

* * *

New Jersey Meeting Promises to Be Good

The meeting of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society will be held at the Trenton (N. J.) Country Club on June 17. Wm. Burgess, of the United States Potters' Association, will give an address and the following papers will be read: "Hollow Building Tile," by Walter A. Hull, United States Bureau of Standards, Washington, D. C.; "Factory Preparation and Burning of Whiteware Bodies," by Prof. A. S. Watts, Ohio State University, Columbus.

A part of the meeting time will be devoted to the discussion of practical problems pertaining to the ceramic industries, such as kilns, kiln firing, saggers, etc.

* * *

Is Brick Too Good?

At a recent meeting of some of the Louisville, Ky., brick men, among those present being James T. Howington, of the Coral Ridge Clay Products Co.; T. Bishop, of the Southern Brick & Tile Co., and Andrew Hillenbrand, of the Progress Pressed Brick Co., the remark was made that brick manufacturers are putting out a good and lasting product, which apparently is too good, as it stands the ravages of time, and is never thru as a used material. There are brick in buildings in Louisville that have been in two or three buildings. Mr. Bishop called attention to the fact that in China brick from the old Chinese Wall, over 2,000 years of age, are being used in construction work. This argument came up in connection with the large quantities of brick marketed at half price this year from the old Galt House Hotel building, which has been wrecked, the brick, altho over fifty years of age, still being in fine shape, and bringing half of the present market prices or better, and more than they brought as new brick when originally placed in the building.

* * *

Using Oil Shale as Locomotive Fuel

Large and valuable deposits of oil shale have been discovered in Esthonia, a Baltic province. The shale yields approximately one and one-half barrels of crude oil and about 53 gallons of gas water. The shale gas can be used for lighting and heating purposes. The shale is put to many uses. At a gas factory in Reval it is used exclusively for producing gas and the quantity obtainable from a ton of shale is greater than from the same amount of coal.

Experiments in firing locomotives with shale have given very satisfactory results, and the railway factory in Reval is now reconstructing the fire box on one of the engines with the intention of employing shale as fuel. The difference in price between coal and shale is very great, price of shale being only about one tenth that of coal.

* * *

Subgrades Now Carefully Inspected

In a recent issue of "Engineering News-Record" appears the following in regard to pavement subgrades:

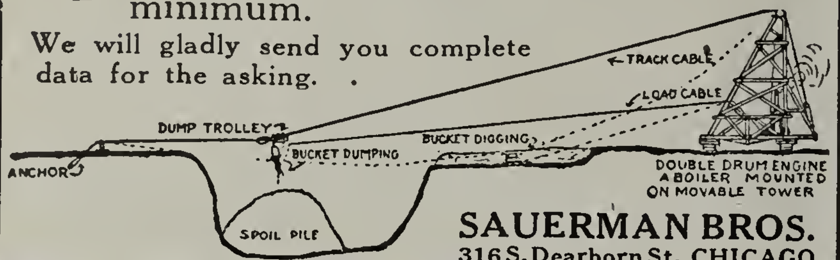
Decreasing confidence in subgrades has been a striking development of highway engineering thought during the past two years. Formerly, so long as the road was fairly well ditched and the pavement slab distributed the load fairly well, little fear of subgrade weakness was expressed. Disturbances due to freezing and heaving were always feared, but the supporting power, in general, of normally sound subgrade caused little concern. Now no detail of a paved road structure is more under suspicion. Indeed the capacity of subgrade for destruction has come to be spoken of almost tremulously. Two reasons appear. One is the report of paved roads breaking down under heavy truck traffic because of subgrade weakness. The second is laboratory evidence of moisture action on soil stability and the capacity of capillarity to develop a dangerous moisture content in soils. While enough facts of both sorts have been disclosed to warrant their careful appraisal and further investigation, the big fact remains that the mileage of pavement that has failed is a very small fraction of the total mileage and on the whole our paved roads have stood up well.

SAUERMAN
Dragline—Cableway—Excavator

Digs, Conveys and Dumps in one operation.

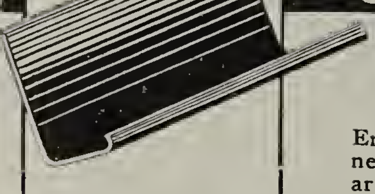
Cuts labor and digging costs to a minimum.

We will gladly send you complete data for the asking.



SAUERMAN BROS.
316 S. Dearborn St., CHICAGO

No 1076



SALEM
ELEVATOR BUCKETS

A flat bottom elevator shelf. Elevates at low angles and without a boot. Readily discharges ore, coal, broken stone and mud.

Enjoying dominance in their field for nearly half a century, Salem Buckets are known universally for their utility and dependable service.

Price list on request

Mullin's Body Corporation
Stamping Dept. "A"
101 Mill Street Salem, Ohio
Successors to The W. J. Clark Co.

UNLOADING FOR 3 CENTS PER TON

Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.
The Columbus Conveyor Co., Columbus, O.

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Water Content of Molded Clay Ware

975. *Illinois—What is the usual moisture content in a clay at the machines or in the green product in a common brick; hollow building tile; sanitary ware or pottery? Does not the moisture content of the clay have a major influence on the shrinkage or cracking? How is the shrinkage or cracking usually overcome in a clay product giving trouble due to this cause?*

The moisture content in a common brick made by the stiff mud process usually varies from fifteen to twenty-five per cent. The same amount of water is usually contained in a hollow building tile while for sanitary ware or pottery as much as eighteen and thirty per cent. of moisture is contained in the clay.

It depends upon the nature of the clay as to the amount of water required for its fabrication into ware. The moisture content of a clay does have a major influence on the shrinkage and cracking of ware. However, the fineness of grain, rate of drying, plasticity, and so forth, are also factors that affect this property.

The shrinkage or cracking may be overcome by the use of grog or non-plastic material. The use of such salts as sodium chloride or sodium silicate reduces the water content and has been effective in reducing shrinkage and cracking in some clays. Of course, proper drying conditions are also a necessity in preventing cracking.

* * *

What Clay Plants Pay for Power

976. *Utah—The brick companies in Utah are facing an excessive increase in electric power rates. Can you give us any data as to rates charged in other localities? We would appreciate knowing rate per kilowatt hour and also demand charges on the rate per thousand brick wire cut and pressed. Any information that you can give us will be appreciated.*

An Ohio plant furnished the following data:—

"For demand charge we pay $1 per horsepower per month and for consumption charge 1½ cents per kilowatt. Our average electric charge amounts to $70 per working day of nine hours. For 220 days of manufacturing last year and with power for light, the cost amounted to $11,622.75. For furnishing power for the fans used on the dryer, $3,765.80. The total cost thus amounted to $15,388.63.

"The manufacturing cost per ton of ware amounted to $.360 cents, while the drying costs were $.0992 per ton, the entire cost of electric power per ton of ware amounted to $.4052 per ton. This was done at the time of low production and inefficiency of labor last year. Greater production would lower these costs."

An Illinois manufacturer supplied data as follows:

"Our electric rates are based on a complicated demand charge and sliding scale which averages when we are over-rated at normal capacity at $.023 per kilowatt hour."

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

A clay plant in Macon, Ga., has a sliding scale electric rate which averages $.012 per kilowatt hour.

A plant operator in Iowa states that his power rate depends on the price of coal. The present rate is $.033 per kilowatt hour.

A Maryland clay plant operator stated that his power requirements are 400 kilowatt hours. This amount of power is required to operate a winding drum, Rust clay feeder, disintegrator, pugmill, brick machine and end cutter machine for the manufacture of 35,000 brick per day. The rates are made subject to volume discounts of which a complete schedule accompanies this article. The rate calls for eight cents for the first sixty hours, six cents up to one hundred and twenty hours, and four cents for the balance.

The following is a copy of the schedule for the Maryland brick plants:

Availability.—Available to all power customers desiring to use the Company's standard service for power purposes, who will guarantee a minimum annual payment of twelve hundred ($1,200) dollars. Power is defined as motor load of all kinds where the installation is at least one horsepower or more. The use of electricity will be measured in kilowatt hours by a watthour meter furnished and installed by the company. Customers applying for service under this schedule are required to sign a contract for a period of at least one year, guaranteeing the above minimum payment and embodying the terms and conditions of the company.

Application.—This schedule covers service in Salisbury, Fruitland, Hebron, Sharptown, Delmar, Denton, Greensboro, Ridgely, Federalsburg, Williamsburg, Preston, Secretary, Hurlock, East New Market, Eldorado, and Cambridge, Maryland.

Eight cents per kilowatt hours for the first block.
Six cents per kilowatt hour for the second block.
Four cents per kilowatt hour for the third block.

Demand.—The number of kilowatt hours in the first block shall be determined by multiplying the kilowatt demand by sixty.

All current used each month up to sixty hours use of the kilowatt demand shall be computed at the rate specified for the first block.

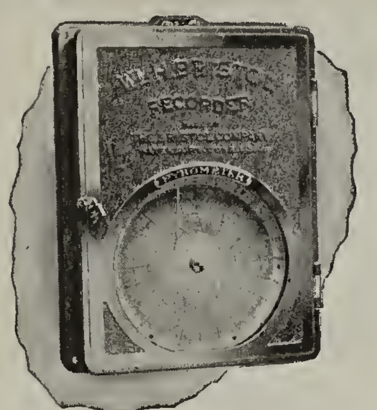
All current used each month in excess of the number of kilowatt hours in the first block and up to 120 hours use of the kilowatt demand shall be computed at the rate specified for the second block.

All current used each month in excess of 120 hours use of the kilowatt demand shall be computed at the rate specified for the third block.

The horsepower demand shall be determined by taking the connected horsepower and applying the following table:

Installation of less than 1 horsepower—1 motor—80% of rating; installation of less than 10 horsepower—2 or more motors—75% of rating; installation of 10 to 50 horsepower—1 or more motors—70% of rating; installation of more than 50 horsepower—1 or more motors—60% of rating.

The connected load of motor shall be considered the rating in horsepower designated by the manufacturer. One



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tells the workman at a glance just what the temperature conditions are now, what they have been, and in what direction they are leading. With this knowledge he can readily obtain close regulation—and even inexperienced workmen can do better work.

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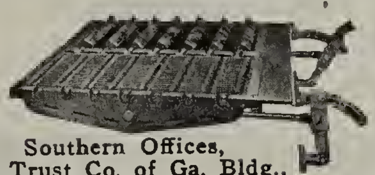

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horsepower of motor rating shall be considered equivalent to eighty-eight per cent. of the kilowatt input.

Discount.—From the gross amount of each monthly bill computed at the foregoing rates, the following quantity discounts shall be deducted:

For the first $50 of the monthly bill—no discount; for the next $50 of the monthly bill only—10% discount; for the next $100 of the monthly bill only—20% discount; for the next $100 of the monthly bill only—30% discount; for the next $100 of the monthly bill only—40% discount; for the next $100 of the monthly bill only—50% discount; for all over $500 of the monthly bill only—60% discount.

Minimum.—This rate is subject to a minimum monthly charge of One ($1) Dollar per horsepower of demand.

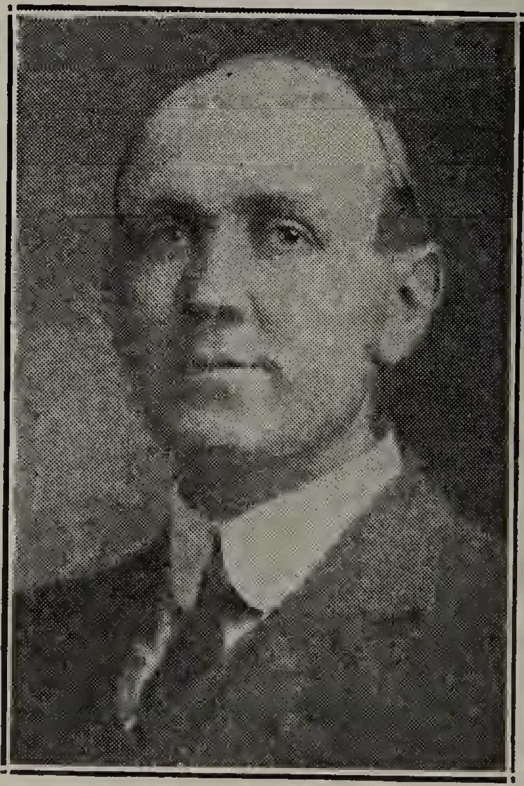
Deduction.—From the net amount of the consumer's bill, as determined in accordance with the above, an amount equal to nine per cent. (9%) of the same shall be deducted. Minimum bills are not subject to this nine per cent. (9%) deduction.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

Charles C. Carhart Is Killed

Charles C. Carhart, president of the Sheffield (Ia.) Brick & Tile Co., and one of the best known men in the industry in Iowa was killed in an automobile accident May 21 when he was driving to his home in Sheffield from Des Moines. Mr. Carhart had been in attendance at a banquet of Iowa college men the night previous. While driving back to Sheffield Mr Carhart's automobile presumably skidded and turned over



CHARLES C. CARHART

several times. He was pinned to one of the spokes of the steering wheel and death resulted almost instantaneously.

Mr. Carhart was a college man and after his graduation was associated with his father in banking and real estate. In 1907 when the Sheffield Brick & Tile Co. was organized he served that company in the capacity of secretary and treasurer for eight years and was then elected president. In 1917 the Sheffield Tile Co. was organized with Mr. Carhart as its president which position he held until his death. He organized the Sheffield Electric Light & Power Co. which was later sold to the Cedar Valley Electric Co. He also participated in the organization of several other industrial ventures his latest being the Jackson (Minn.) Brick & Tile Co., of which his brother was vice-president.

Mr. Carhart was a member of several prominent lodges and clubs and his many friends in the industry and outside will be grieved and shocked to learn of his untimely death.

Founder of Large Clay Products Concern Dies

. W. S. Carter, eighty years old and long associated with the clay industry died April 28 in Pasadena. Cal. Mr. Carter was one of the founders of the Los Angeles (Cal.) Pressed Brick Co., and a resident of Pasadena for twenty-five years. He is survived by two daughters.

Succumbs to Dual Illness

William K. Seirp, treasurer of the Southern Brick & Tile Co., Louisville, Ky., died May 18 at his home near Louisville. Mr. Seirp had been suffering from heart disease and asthma for five months and succumbed to an attack of the former. He is survived by his widow, a daughter, brother and granddaughter.

Southern Brick Man Deceased

Mr. Montague, eminently identified with the clay and sewer pipe industries of Chattanooga, died in May in that city. Deceased was one of the pioneer sewer pipe manufacturers in the South. His Chattanooga residence was one of the show places of the South, being built in the Italian Renaissance and Moorish castle types of architecture.

Grim Reaper's Scythe Reaches A. W. Beidler

Adam W. Beidler, of Chicago, Ill., former president of the Illinois Terra Cotta Co., and the McRoy Clay Works, died at a hospital in Atlanta, Ga., after a week's illness. He is survived by a widow, a daughter, three sisters and one brother. He was a member of the Union League Club and the Midlothian Country Club of Chicago.

Father and Son Stricken by Death

Henry Holtz, a young clay worker very well known in the United States and Canada, passed away on May 2 at Winnipeg, Canada. Just two weeks later Mr. Holtz' father, F. Holtz, also died at Bruno, Saskatchewan. They were associated in the brick manufacturing business until fire destroyed their plant at Grangeville, Idaho. The double loss of these two excellent workers will be felt by the clay industry and the sympathy of the industry is extended to the widows.

J. W. Robb Seriously Ill

J. W. Robb, of Clinton, Ind., secretary and manager of the Wabash Valley Electric Co., which supplies power to Sullivan, Jasonville, Greencastle, and other nearby towns, and a well known brick manufacturer, is in a critical condition at a Martinsville sanitarium, where he was taken several days ago for

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By INCREASED EFFICIENCY
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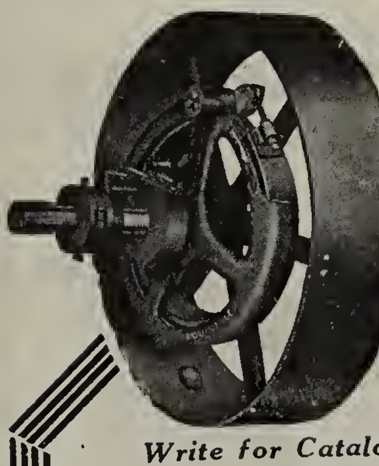

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Under the present conditions efficiency means more than it ever did. Everything now depends upon increased production, and through real efficiency only will production be speeded. Every clay plant operator realizes the value of reliable machinery as a saving in labor costs. To be efficient, machinery must be reliable, inexpensive, speedy and durable. These points are characteristic of the SCHAFFER POIDOMETER. Being built under the supervision of experienced engineers, it is reliable; its peculiar ability to endure a long serviceable life without repairs makes it inexpensive. It will weigh your clay, with 99.75% accuracy at the rate of 1½ to 21,000 lbs. per minute. Being built of the best materials obtainable, it is durable.

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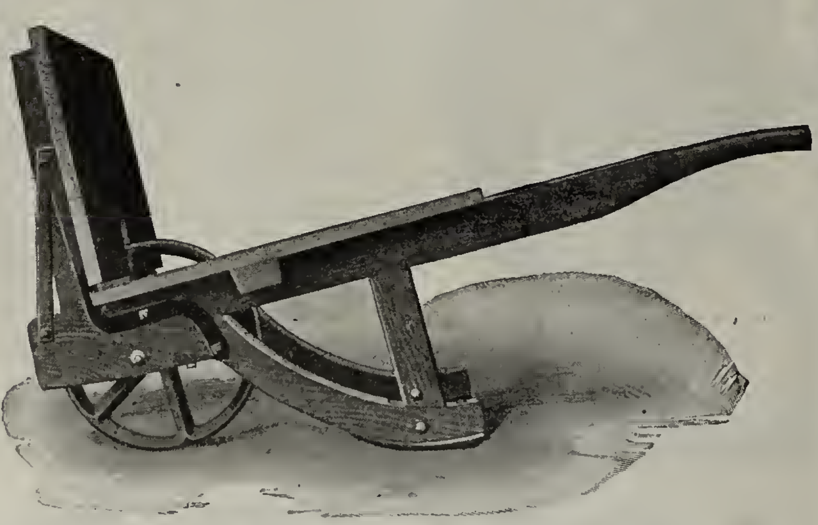

This favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

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medical treatment. Mr. Robb suffered a heart attack but was not believed to be seriously ill. According to a message to relatives his recovery is doubtful. He was at one time president of the National Brick Manufacturers' Association and is widely known by brick manufacturers and contractors thruout the country.

G. P. Toms President St. Louis Refractories

A. H. Brueggeman has been succeeded as president of the St. Louis (Mo.) Refractories Co., by G. Parker Toms. Mr. Brueggeman is in Mexico, it is reported, on an expedition to locate new deposits of magnesite.

Takes Charge of Fire Brick Plant

T. C. Eayres, of Philadelphia, Pa., recently assumed charge of the plant of the Massillon Stone & Fire Brick Co., northwest of the city. Mr. Eayres formerly was connected with the Budd Manufacturing Co., of Philadelphia.

Enjoys 20 Minutes Confinement in Prison

W. T. Matthews, sales manager of the Claycraft Brick Co., of Columbus, was the victim of a hoax while participating in a trade tour thru the northern part of Ohio. The trade tour was run under the auspices of the Manufacturers' and Jobbers' Association of Columbus. When the special train reached Lima, it was met by several plain clothes officers who arrested Matthews and threw him in the "hoosgow" for about twenty minutes. The charge preferred by Lieutenant Governor Clarence Brown was that Matthews knew of the whereabouts of McGannon, a noted bank robber. Several citizens intervened and Matthews was soon released from durance vile.

Robert C. Mitchell Leaves Reliance Brick Co.

Coming somewhat as a surprise is the announcement of the resignation of Robert C. Mitchell from his position as manager of the Reliance Brick Co., of Omaha, Neb. Mr. Mitchell will devote his time in future to the promotion of building shows thruout the country, assisted by Charles A. Franke, manager of the Auditorium at Omaha. Mr. Mitchell and Mr. Franke, it will be remembered, are the two men who were chiefly responsible for the success of the building exposition in Omaha.

Contracts have already been taken to promote building shows in Salt Lake City, Utah, Houston, Tex., and Kansas City, Mo. Mr. Mitchell will go to Cleveland, Ohio, next month to take charge of the staging of the building show which is to open there in October.

Big Alabama Company Operating at Capacity

The largest walled building in the Birmingham district has just been completed and is now being occupied by the Southern Sewer Pipe Works in North Birmingham, Ala. The building is three stories high and each floor has a dimension of 58,543 square feet.

The company manufactures clay sewer pipe, double and triple strength vitrified culvert pipe, vitrified building block, wall coping, fire clay flue lining and silo block. This plant is now in full operation and is shipping large orders of sewer pipe to Cuba, all sections of Alabama, Georgia and Mississippi. The company is now turning out sixteen car loads of pipe per day. They have twenty-six large kilns where the products are burned.

The clay used in these works comes from the Banner mines at Kilgore, only a short distance from Birmingham. Besides the manufacture of sewer pipe this company is now making a specialty of the manufacture of silo block and soft glazed building block. The company has just completed a handsome office building made of these block. They are made in four and eight inch sizes. This plant is owned by Walter S. Dickey, who is the largest independent clay worker in the south. He has ten plants in the southern states. The local manager of the Southern Sewer Pipe works is C. B. Beasley, and the superintendent is W. R. Leighton.

To Make Products on Small Scale for Tests

Another kiln has been added to the Alberhill, Cal., research laboratories which will furnish small scale commercial production to adequately test products. Ceramic progress in the Southwest is thought to have received great impetus recently, due to the ever-increasing interest of business interests, especially in Riverside County.

The recent opening of the laboratories to the teachers of the Los Angeles vocational schools has proved very popular and clay workers with problems to be solved are availing themselves of the opportunity to use the laboratories.

Open Shop for San Francisco and Oakland

Culmination of the long simmering dispute between employers and employes in the building trades in San Francisco and Oakland, Cal., came to a head the last week in May when all union employes were locked out and building operations came to a standstill. For the last ten days everything in the two cities has been shut down. The cause of the trouble is mainly the refusal of the Union Building Trades Council to accept the findings of an arbitration board calling for an approximate reduction of seven and one-half per cent. in wages. As a result the San Francisco and Oakland Builders' Exchanges have declared for an open shop.

Another Clay Plant in Wilmington Family

The Federal Brick & Supply Co., Wilmington, Del., has been formed under state laws with a capital of $500,000 to manufacture brick, tile and other burned clay products. The local incorporators are M. A. Bruce, T. L. Croteau and C. H. Maxwell.

Opens After Two Years Shut-Down

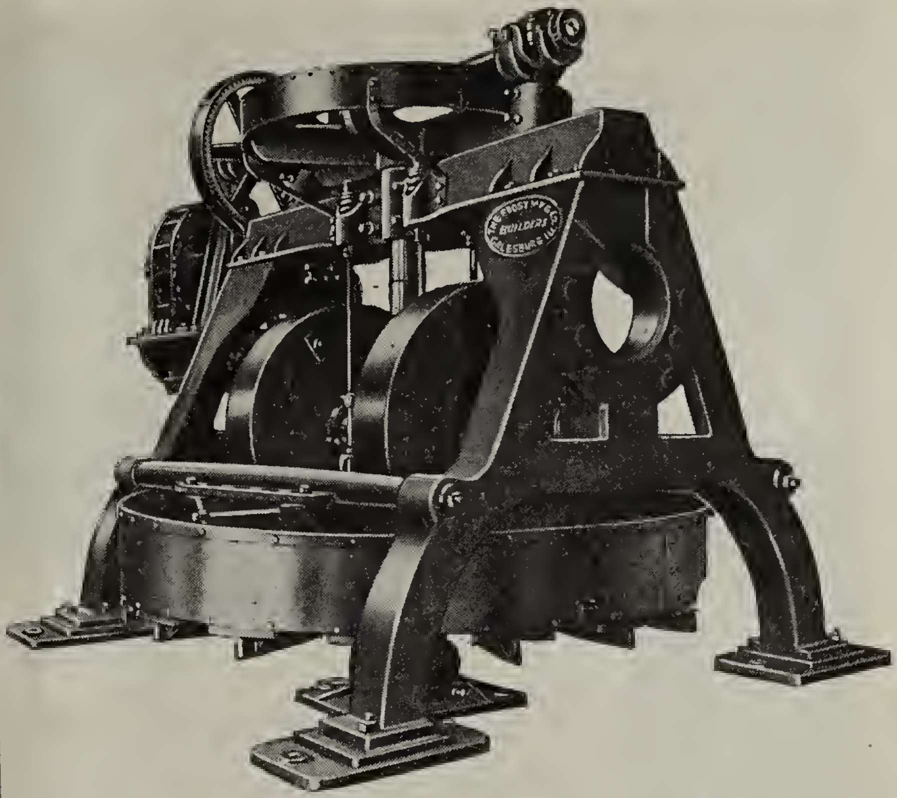
The Jacksonville (Ill.) Brick & Tile Plant will be opened and operating shortly. The plant is being motorized and the output will be increased preparatory to the opening. This plant was closed two years ago due to the excessive cost of operation, but Edward Harrison, the owner, has determined to start things moving once more.

Barr Clay Company Again Working

Approximately 175 men have again found employment at the plant of the Barr Clay Co., Streator, Ill. This plant is the first of the clay products in the Streator district to resume work following the slump in business and general industrial depression. The company was not closed down for any length of time suspending work only long enough to make the repairs necessary for this season's run.

Debate Question of Brick or Lumber

A. E. Davis, Indiana sales manager for the Western Brick Co., of Danville, Ill., told the members of the Indianapolis Real Estate Board recently a lot of pertinent things about using brick for construction. Mr. Davis was pitted in a debate with Ransom Griffin, general sales agent of the lumber department of the Central Coal & Coke Co. on the subject "Lumber or Brick, Which?" Each was allowed fifteen minutes



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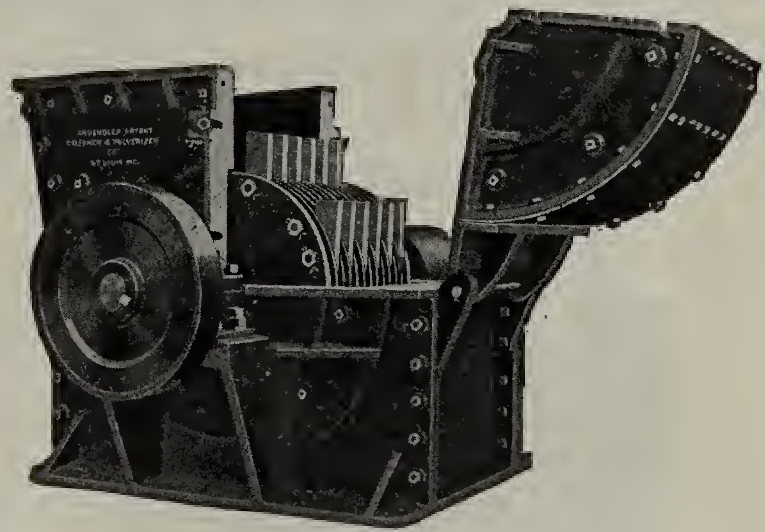

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In Dry press brick plants Gruendler Crushers are pulverizing hard shale, clay and brick bats with greater moisture content and to more uniform fineness than dry pans—it is frequently possible for one Gruendler to replace as many as 3 dry pans and insure a greater capacity with smaller horse power requirements. Products are thoroughly mixed and upkeep costs are negligible.

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with five minutes for rebuttal. Mr. Davis argued that while building, it is cheaper to build "Homes that will last." He went into the initial cost, the insurance rates, the depreciation and in fact every argument even down to the artistic side of the construction to give the builders in the board some idea of what they were missing by building with lumber construction.

Kaolin Company Organizes

The American Kaolin Co., Vincennes, Ind., has filed incorporation papers with the secretary of state, showing a capitalization of $250,000, for the purpose of extracting kaolin, clay and gravel, etc. Directors are P. L. Donie, W. G. Duesterberg, J. A. Kapps, W. T. Bessonette and G. C. Krack.

Ft. Wayne Brick Co. Starts Work

Operations have begun at the plant of the Ft. Wayne (Ind.) Brick Co. on a full time basis and about forty men are now employed. The company is at present running chiefly on stock and it is the intention of the officials to have on hand a large stock pile for the coming business boom which they believe is inevitable.

Unions Go Back to Work at Indianapolis

Altho no contracts have been signed between the Marion County Building Trades Council and the Building Contractors' Association of Indianapolis, 4,000 members of the building trades unions returned to work this morning, having been out on strike for more than six weeks. Until the contracts are finally signed, tentative wage agreements, ranging from 8 to 12½ per cent, will remain in effect.

Clay Men Speak at Evansville, Ind.

The brick and clay industries in Evansville, Ind., are coming right to the front with good publicity. Recently the Evansville Real Estate Board issued a program for the coming year in which the subjects and the speakers for each meeting were published in book form. Robert E. Eckler, of the A. L. Maxwell Co., spoke on May 27 on "Evansville Clay Industries." On June 10 John Andres, of the Standard Brick Co., gave an address, and on December 30 Henry C. Kleymeyer, president of the Standard Brick Co., will talk on "Looking Forward."

U. S. Army Entertains Brick Manufacturers

Officials of the quartermaster corps of the U. S. A., stationed at Ft. Benjamin Harrison, recognized the services of the brick manufacturers of Indianapolis, Ind., recently when they were invited to attend a celebration of the one hundred and forty-sixth anniversary of the quartermaster corps of the United States army. The men in the trade were invited because of their part during the war. The dinner was one of a number given in various parts of the world where the quartermaster corps are stationed. State, city and civic officials addressed the dinner, which was one of the largest ever held in this city.

Clay Company, Just Organized, to Build Plant

Thirty thousand standard fire brick will be the daily production of the Olive Hill Refractories Co., Ashland, Ky. This company has been organized with John F. Hagar, president; J. William Stewart, treasurer. Plans are being made to erect a building and install machinery.

Bricklayers Vote to Reduce Own Wages

At a meeting of the Maysville, Ky., Bricklayers' Union it was voted that the working scale be reduced from $1 an hour to

87½ cents. This was done to stimulate building activity there, as the high cost of labor and materials have made it impossible for anyone to begin on new work in the building line. It is now said that at the next meeting of the Carpenters' Union that organization will vote to decrease its scale.

Louisville Coal Declining Slightly

The coal market has worked a little weaker during the month and, according to some of the well posted operators, there will be a weak steam market thru the balance of the year, due to the fact that industrial demand is weak, and screenings are selling so cheaply as to prevent the mine run market from advancing. Screenings are quoted as low as $1 a ton in some instances and some very fair mine run has been quoted as low as $2 a ton, altho the best grades of gas mine run are quoted at around $2.40 to $2.65 a ton.

Kentucky Has Fine Fire Clays

An editorial in the Louisville Times of May 19, told more of the fine fire clay deposits and natural products of Eastern Kentucky than has been seen in print locally in a long time, as Carter County Ky., is well removed from Louisville, is more or less isolated, and not heard of very often. The Louisville Fire Brick Works mines its clay there, and operates a brick plant at Grahn, Ky., in Carter County and another in Louisville. The editorial read in part:

"It is interesting to note that in Carter County, adjoining Rowan, is centered the fire brick industry of the country, the ovens and operations covering many acres and giving employment to thousands. The hills of Carter County furnish a practically inexhaustible supply of the most superior fire clays, and with ample capital the industry has been developed until it is one of the leading commercial activities in that section of the state."

Maryland Plants to Use Natural Gas

Brick manufacturing plants at Cumberland, Md., have perfected arrangements with the West Virginia & Maryland Gas Co., to furnish natural gas for operating service at their plants. The connection and installation will be made at an early date.

Colonial Brick Co. Will Operate at Baltimore

The Colonial Brick Co., Calvert Building, Baltimore, Md., has been organized with a capital of $50,000, to manufacture building brick and other burned clay products. The company is headed by William F. Bell, Edward T. Reisler and Albin Widoff.

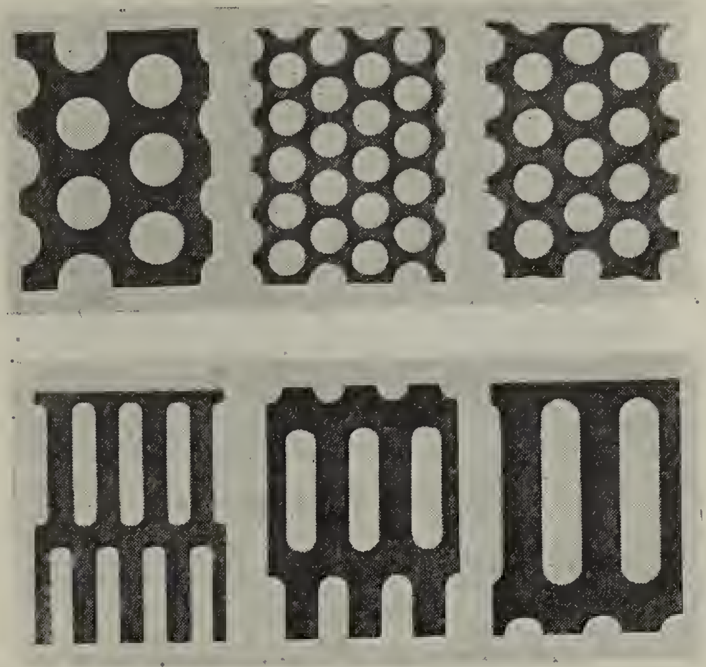
Form Company to Make Brick

The Bay State Brick & Stone Co., Haverhill, Mass., has been incorporated with a capital of $200,000, to manufacture and deal in brick and kindred building materials. The company is headed by George L. Baldwin, Haverhill; Joseph D. Curtis and G. Cheyne, Roxbury, Mass.

Demand for Brick Rapidly Exhausting Stocks

In Detroit, it is reported that the increase in building activity is making great inroads on the accumulated stocks of brick in manufacturers' yards. The demand for brick is increasing by leaps and bounds, and surpluses have practically been exhausted. Some prison made brick are coming into the market from Jackson, Mich., but not in sufficient quantities to affect the market. The price is practically the same as the Detroit brick.

Perforated Steel Screens



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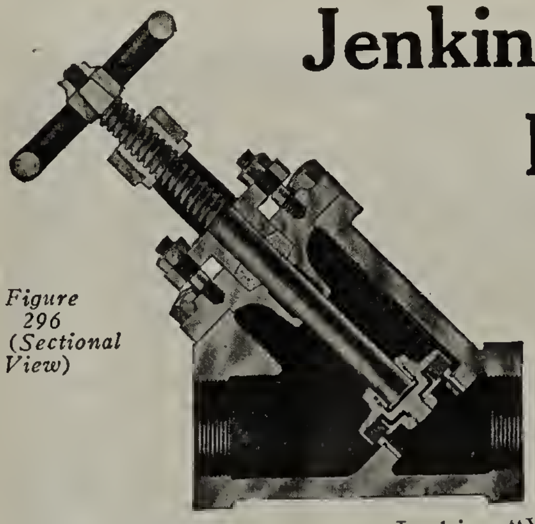

Figure 296 (Sectional View)

Iron Body Standard Pattern

Figure 296

Jenkins "Y" or Blow-Off Valves are strong and rigid, and on account of the full, straight opening, offer practically no obstruction to the free passage of steam or fluids.

Extensively used and recommended for boiler blow-off systems, and for use on lines carrying thick fluids.

Look for the name and "Jenkins Diamond Mark" on the body.

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Jenkins Valves
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Handling Loose Materials
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Whether you handle clay, sand, gravel, coal, coke or similar materials a Godfrey Conveyor will
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Tile Man Going After Coal Company's Business

The J. M. Preston Co., Lansing, Mich., with plants at New Brighton, Pa.; Urichsville, Ohio; Brazil, Ind., and Fort Dodge, Ia., is featuring retail coal handling plants for storage purpose, using Preston-Lansing vitrified tile for the coal pockets or bins. The company is advertising its line in the coal trade journals. In a recent issue of the "Black Diamond" it used in its advertising a photo of the tile coal pockets at the plant of W. A. Gosline, at Toledo, O. Coal men are almost entirely getting away from wood for coal pockets, many going to concrete, while there is an excellent opportunity for the tile manufacturer.

May Begin Work Soon

Orders that are being received by the Fulton (Mo.) Fire Brick Co. make it seem possible that the factory can be started on part time at least within a week or two, according to C. O. McNamee, general manager of the company, who has just returned from a business trip thru the East. In certain lines of fire brick products the company has a large stock on hand, which has been stored in moisture proof sheds on the plant grounds and which will be protected for an indefinite period.

"Our railroad business is picking up a little bit and also our commercial business," said Mr. McNamee. "The increase in orders is very slow but perceptible. Some lines of our stock are low and if orders continue to come in we shall start the factory again on part time."

Mr. McNamee on his eastern trip visited New York, Pittsburgh and Ashland, Ohio, where he conferred with men who are interested in operating the Fulton factory.

Work Resumption Hinges on Building Trades

A large stock of brick is being manufactured by the Great Falls (Mont.) Brick Co., in preparation for a goodly volume of business which it is expected will develop this summer. Wyoming and Washington especially are considered fair prospects for good markets. W. H. Shaw, manager of the company, is of the opinion that there can not be much building until the differences between the building trades and contractors have been adjusted.

Fire Completely Destroys Modern Plant

Damage estimated to be $75,000 to $100,000, was caused by fire recently at the plant of the Yankee Hill Brick Manufacturing Co., at Burnham, near Lincoln, Neb. It is thought the fire was caused by crossed wires or probably a hot box. Starting in the fan room the blaze quickly spread over the whole plant despite the efforts of the fire fighters to curb its progress. The plant had been running to capacity employing from forty to sixty men with an annual output of over 10,000,000 brick per year. Part of the men will be retained and the plant rebuilt with all speed.

Clay Concern Incorporates for $1,000,000

The Bradley Fireproofing Products Co., Inc., has been organized to manufacture brick, fireproof brick, tile, hollow tile and sewer pipe. The company's offices will be located at 15 Exchange Place, Jersey City, N. J. The capital stock is $1,000,000, of which $300,000 is preferred stock and the rest common. Incorporators are H. A. Black; Alfred F. McCabe and John Turner.

New Clay Company in New Jersey

The Fairton Sand & Clay Co., Fairton, N. J., organized under Delaware laws, has filed notice of company formation to operate local clay properties. The company is represented by J. W. Trenchard, Fairton.

Select New Jersey as Site for New Plant

Recently organized with a capital of $1,000,000 the Adamtex Brick Co., 171 Madison Ave., New York City, is planning for the construction of new works at Trenton, N. J. This will be a branch of its present plant on Forty-seventh Street in Brooklyn, W. L. Woottan is president of the concern.

To Increase Capital $3,500,000

The National Brick Co. of Laprairie, Que., has issued a circular to the bondholders of the company, giving plans of reorganization, which will be discussed at the annual meeting on June 15. It is proposed to increase the capital from $2,000,000 to $5,500,000. Bondholders will be given stock and a mortgage on the plant not exceeding $750,000 will be given.

Moves Offices Nearer Plants

In order to be in closer touch with its plants and customers the George M. Norwood Brick Co. has moved the general offices of the company to 202 Globe Bldg., Raleigh, N. C. The concern is now located centrally with respect to its plants.

Increases Capital from $50,000 to $200,000

Papers have been filed with the secretary of state increasing the authorized capital of the Peebles Paving Brick Co., of New Boston, Ohio, from $50,000 to $200,000.

Doubles Capital Stock

The Heidecker Brick Co., of Beecon, Ohio, a suburb of Cincinnati, has filed papers increasing its capitalization from $15,000 to $30,000. The concern manufactures common brick.

New Concern to Make Drain Tile

The Ohio Tile Co., of Cleveland has been chartered with an authorized capital of $10,000 to manufacture drain tile of all kinds. Among the incorporators are W. V. Brothers and F. J. Driscoll.

Progressing Rapidly on Ironclay Plant

Rapid progress is being made on the new mortar plant of the Ironclay Brick Co. on West Second Ave., Columbus, Ohio. Concrete and brick work is done and the installation of special mortar making machinery will be started soon. It is expected the new plant will be ready for operation by the middle of June.

Ohio Coal Prices Stable

The coal trade in Ohio is rather steady and prices are unchanged during the past few weeks, with the exception of screenings, which are much lower. Owing to the activity developed in the lake trade, which is taking prepared sizes exclusively, there is an overproduction of slack and prices are correspondingly low. Mine-run is not active, as steam plants are not operating to any great extent. Lump and egg are selling around $3.25 to $3.50 at the mines and the demand is fair. Brick plants are buying coal only as needed.

Will Begin Work Soon

Papers have been filed with the secretary of state reducing the capital of the Webster Brick Co., of South Webster, Ohio from $200,000 to $10,000. the idea being to ultimately dissolve the corporation. The new corporation has an authorized capital of $250,000. A. L. Fullerton is president and S. K Day, secretary. The plant was closed down recently to

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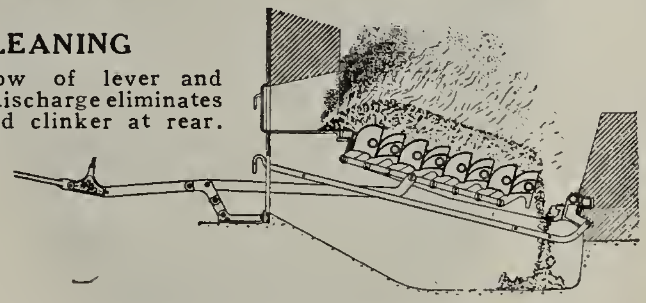
Full throw of lever and auxiliary discharge eliminates all ash and clinker at rear.



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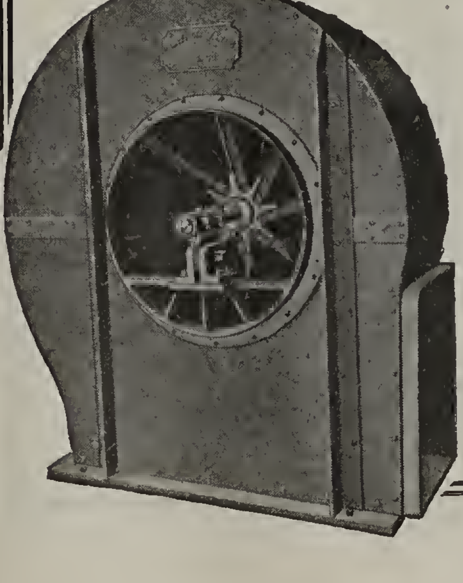

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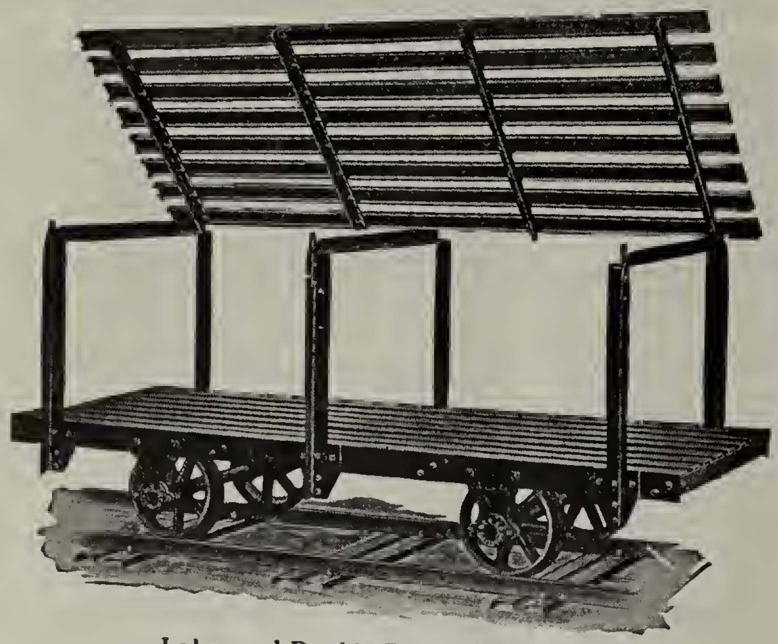

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The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

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Dryer Cars and Clay Working Equipment
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permit the installation of a new cutting table and it is expected to have it in operation again soon after June 1.

Object to Rolled Stone Base for Brick

Residents of Delaware and Marion Counties, Ohio, have protested to the Ohio Highway Commissioner against the use of a rolled stone base for the brick paving job of 7.44 miles of the Columbus-Sandusky road in these counties. The contract for the work was awarded to A. B. Shaw, of Delaware, at $327,099. The objectors desire a more enduring foundation and will accept any save that of the rolled stone.

Paving Brick Scores Over Competitors

At the state highway meeting in Ohio May 27 a total of 200,000 square yards of brick paving was awarded. The brick paving crowd secured all of the contracts in which paving brick was included as an alternate excepting two small jobs. Among the jobs included in the letting were a stretch of 3.02 miles in Cuyahoga County, a short stretch in Holmes County; a job of 3.112 miles in Huron County, two stretches in Tuscarawas County aggregating 3 miles; and some others.

Common Brick Demand Steady

Common brick demand in Columbus, Ohio, territory is holding up fairly well and prices are fairly strong at previous levels. Sand mold brick are selling around $16 to $17 delivered, while shale brick are quoted from $17 to $18 delivered on the job. Face brick are holding firm also, prices ranging from $25 to $30 for the usual shades are from $32 to $38 for buffs and grays. Face brick plants in the Hocking Valley region are now in operation with a fair stock of brick ahead.

Franklin Brick and Tile Working Steadily

R. S. Dingledine, secretary and treasurer of the Franklin Brick & Tile Co., of Columbus reports good business in every way during the past three weeks. The new plant of the concern, located at Taylor Station, just east of Columbus, is now up to capacity making hollow building tile and drain tile. The other plant is busy on face brick and common brick. According to Mr. Dingledine orders are coming in briskly and shipments are moving out promptly.

Hocking Valley Running Four Plants

The Hocking Valley Brick Co., in conjunction with the Nelsonville Brick Co., with headquarters in Columbus, Ohio, is operating its four plants in the Hocking Valley. Three of the plants are making hollow building tile while the fourth is busy on pavers. This company reports little change in the demand for either product. Paving brick is a little slow, as there are many things to hold up improvement projects. M. M. Morrow, sales manager of the two concerns went to Chicago and Detroit on business early in May.

Start Building Plant

Construction work on the Midvale plant unit No. 2 of the Canton (Ohio) Brick & Fireproofing Co., capitalized recently at $1,500,000, will be commenced very soon, officials of the company have announced. Rails for an extension of the B. & O. switch at Midvale are on the ground and 30,000 ft. of lumber is being cut for building purposes by the company employes.

Offices of the company will be opened in the Wescott Block, North Broadway, Midvale, Ohio.

The Canton plant of the company is turning out 40,000 brick daily.

Clay Industry Experiencing Dull Period

The dullest market for ten years is being experienced by the brick industries of Tuscarawas County, Ohio, according to manufacturers. Sewer pipe works are faring better than brick plants. Wage disputes have been settled.

No improvement is in sight in the clay industry it is said, until other basic industries become more active. Wage levels are back to the 1917 basis.

A slight improvement in orders has been noted by fire brick and sewer pipe plants, with the opening of June, it was reported Monday.

Will Hold Road Work for Lower Freight Rates

Ohio Highway Commissioner Leon C. Herrick has decided not to award any additional road improvement contracts until the freight rates on road building materials are reduced. The commissioner is expecting a radical decrease and believes it will come soon. The letting which was scheduled for June 24 has been called off and may take place later in the season. Contractors generally believe that there will be a reduction in rates as is evidenced by the bidding at the opening of bids May 27, when out of a total of about $5,000,000 work the aggregate low bids was $484,000 under the estimates of the highway department engineers.

Making Many Repairs

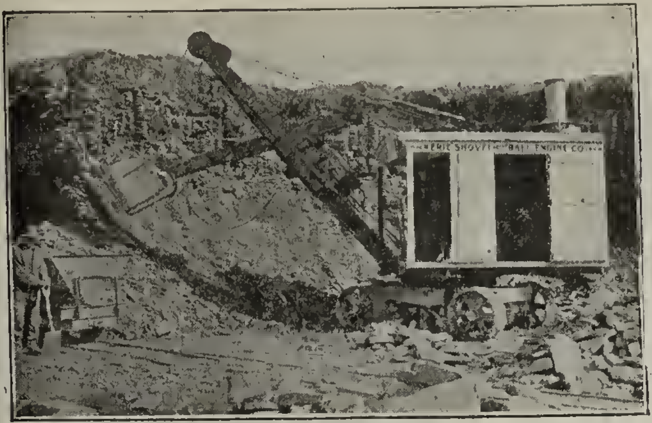
The common brick plant of the Continental Clay Co., of Canton and Columbus, Ohio, which is located at Warmington, near Massillon, will soon be ready for operation after extensive repairs. This plant will be changed into a face brick concern with a capacity of about 50,000 daily. New boilers and some new machinery has been installed and many changes made to increase the efficiency and reduce the cost of manufacture. The other three plants of the company which have been devoted to the manufacture of hollow building tile have been closed down because of an accumulation of stock. It is expected that these plants will be placed in operation towards the middle of the summer.

Uses 20 Kinds of Face Brick in Display Room

New display rooms of the Hydraulic-Press Brick Co., completed this week in the new Cleveland, Ohio, headquarters of the firm at 5005 Euclid Avenue, mark a departure in the display of face brick in sales rooms. The main room of this establishment is one of the largest in this section of the country. More than twenty different kinds of face brick have been used in creating the designs. Strictly panel work has been carried out in all the designs, and the effort has been directed toward creating a garden wall effect. All the panels are larger than any of the kind hitherto attempted in this section, as many as 300 brick being used in some of the designs. A formal opening of the display room may be held at an early date, at which architects, engineers and contractors will be invited to be present.

Paving Brick Used to Build Testing Track

New use of paving brick has been made at Cleveland, Ohio, by the F. B. Stearns Co., motor car manufacturer, for use in testing its new cars. A track, fourteen feet wide, and a quarter of a mile in circumference, has been laid out by the engineering department, and first tests of the cars over the new roadway were made this week. The track is pitched, so that the outer edge is six inches, or approximately the depth of one brick, higher than the inside. Thus cars may attain a speed of twenty-five miles an hour while making a test. Prior to this innovation the testing grounds were paved with slag



The ERIE is the speediest and most reliable machine for brickyard digging, even going through hard shale without blasting.

"THE cost of excavating our clay with the ERIE Shovel shows a material saving over our former method. Our ERIE is giving extra satisfaction, the repairs for a year being absolutely nothing."—*A. H. Bickerstaff, Pres., Bickerstaff Brick Co., Brickyard, Ala.*

Make a careful comparison of steam shovels, and you will know which is the shovel to buy.

We will be glad to send you photos and facts about the ERIE. Write for Bulletin "B."

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Builders of ERIE Revolving Shovels and Locomotive Cranes.

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R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

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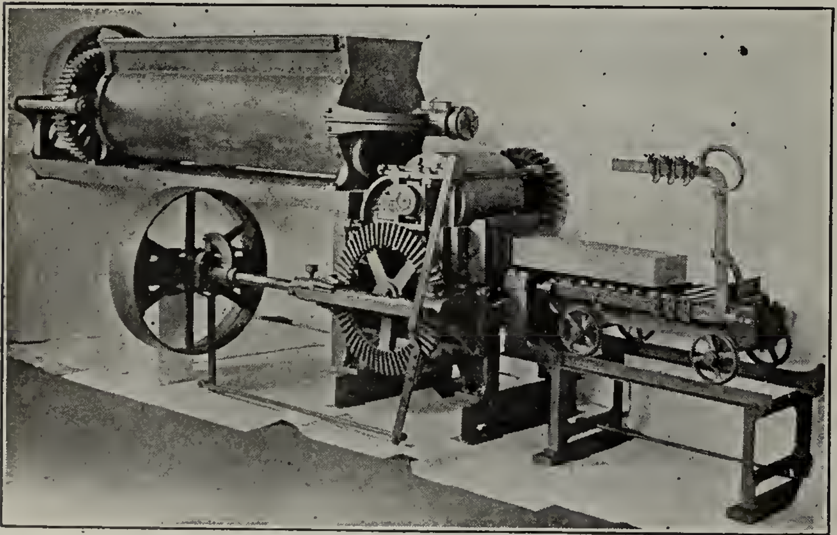

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From Laminating Clay Surface Clay
Short Bonding Clay Fireclay or Flint
This is not a DREAM, HOT AIR or a TOY, but the MOST simple, economical and practical unit of machinery on the market.
Number I Unit as shown has capacity of 10 to 20 Thousand. Larger units are furnished with simple automatic cutter, guaranteed.
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screenings, and these were found to be satisfactory to the engineers until ruts and hollows developed, preventing testers from ascertaining any defects in the motor operation. This slag was rolled to a firm hard base, a layer of sand was placed atop this, and the new brick surface laid. The standard No. 1 paver was used for this purpose. The new arrangement, Stearns engineers assert, permits the testing of more cars in a given period over the old road.

Cleveland Arbitrating Labor Difficulties

Immediate increase in inquiry for brick, tile and other building material in Cleveland, Ohio, has followed the decision of building trades operatives to return to work pending arbitration of their differences over wages with the employers. More orders for face brick, common brick and other materials are reported by all dealers, jobbers and manufacturers, and while these new orders are not large, they are more numerous, making for an averge daily balance of 100,000 brick a day with most firms.

Meanwhile, after five weeks of suspended activities in the building trades the arbitration board, comprising seven representatives not identified with the trade, but representing the public, and a like number representing each side in the controversy, is meeting daily, with three sessions a day, in an effort to arrive at some understanding of wages and working agreements between employers and employes. At the same time the 25,000 operatives who walked out are returning gradually, so that it was expected all building work would soon be under way again.

Builders Supply Board Holds Rousing Meeting

First meeting-outing of the Builders Supply Board of Cleveland, Ohio, was held June 2 at Roadside Club, Glenville, near Cleveland, and while the event was designed primarily to give the members a truthful earful about the late strike of the building operatives, it was given over largely to displaying the merits of the members on the baseball diamond. Also to chicken, the eating variety.

H. Clay Nimms, new president of the Building Trades Employers' Association, was guest of honor, and told the members the inside story of the strike, what its eventual settlement, by the outside arbitration board, will mean to the brick, tile and general building supplies industry, and predicted for still greater stability for the trade henceforth. In the absence of President Alvin O. Preyer and Vice-President Perry Quayle, Leo A. Krueger, Cleveland Clay Products Co., was chairman. About thirty-six members attended, practically a full membership.

The big festivities of the day were the perpetual contests between the Gettems and the Hassems, referring to their respective positions in relation to orders for building supplies. Leo A. Krueger captained the Hassems and Gordon Murray, the Harris-Murray Co. headed the Gettems. The rest of the line-up was as follows: Hassems—Krueger, Queisser, Jr., Slavin, Brugge, Oviatt, Potts, McCormick, Donley, Kemper, and Burnham.

Gettems—Stewart, Nock, Deckman, Flick, Krangle, Walters, Harris, Black, Ziolkowski, and Murray.

The bout finished 18-3 for the Hassems. Hassems scored four runs in the first inning, and kept the Gettems goose egged until 14 runs had been piled up. Then Krueg let them in for a few figures just for variety, but finally tired of this sport and mopped up for the day as aforesaid.

C. H. Patterson was umpire. As an umpire both sides agreed that Pat is a first-class automobile repairist, and all are familiar with the largess he sheds around the local garages. Kindly spirits urged that the more hot headed leave Pat alone, reminding that he had to spend a week in Columbus. The minority were for having Pat spend a week in the hospital, but relected in time.

Plan Building Brick Works

W. K. Moore and D. J. Donahoe, Ponca City, Okla., are organizing a company to establish a local plant for the manufacture of building brick. Plans for the new yard are under way.

Will Open Long Unused Plant

A brick plant with capacity of 40,000 brick daily, which has not been in operation for five years, in Eugene, Ore., has been leased by W. O. Cook to J. J. Sabin, who intends to commence operations soon he says.

Philadelphia Dealer's Market Continues Fair

Philadelphia pottery dealers are finding a fair demand for their products at prices somewhat lower. Stocks of the finished articles are said to be heavy and collections have been variable. There is no lack of raw materials.

New Brighton Plant Razed by Flames

Damages running into thousands of dollars were caused when fire practically destroyed the A. F. Smith Brick Plant at New Brighton, Pa. Some of the machinery, it is hoped, can be salvaged and a new kiln built at a cost of $20,000 was undamaged. The plant is a very old established clay concern, having been in operation since 1840. The question of rebuilding the plant has not yet been decided.

Refractories Company Formed

The General Refractories Co. of Pennsylvania has been formed under state laws to manufacture fire brick and other refractory products. The new company will be affiliated with the organization of the same name, organized under Delaware laws, and now operating plants at Karthaus, Sandy Ridge and West Decatur, Pa., with offices at 111 Broadway, New York. John R. Sproul, son of Governor Sproul, is treasurer of the new company.

Protect Kittaning Firm Against Unionism

Judge J. W. King, of Armstrong County, granted an injunction to the Kittaning Brick & Fire Clay Co. restraining the Clay Workers' Union of America from interfering with the operation of the Kittaning companies' plants as an open shop. The company has three factories in Kittaning and has been producing 60,000,000 high rade vitreous brick per year and has been employing from 175 to 200 men. S. C. Martin, of Pittsburgh, is president of the company and R. G. Yingling, of Wilkinsburg, is secretary-treasurer.

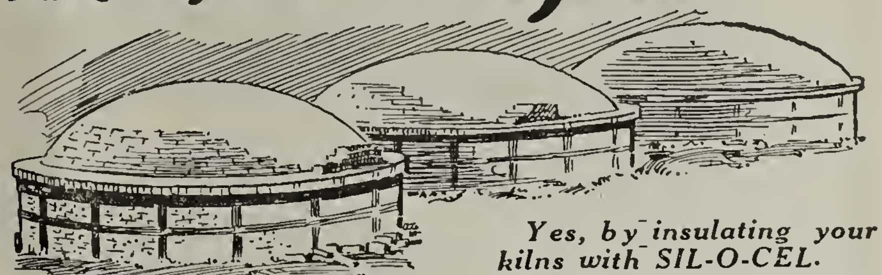
Fire Wreaks Havoc with Plant

Fire caused severe loss to the Gloninger Brick Co., at Vanport, Pa., ten miles east of East Liverpool, Ohio, and overlooking the Ohio River. The fire is thought to have started in the clay elevator, and spread rapidly to other parts of the manufacturing plant. The warehouse, which was located across the tracks of the Cleveland & Pittsburgh Railroad was not damaged, neither was the stock. The loss has been estimated at between $50,000 and $75,000, which is partially covered by insurance.

The Gloninger Brick Co. maintains its general offices in Pittsburgh, Pa., and is a manufacturer of face brick exclusively. The plant is under the personal supervision of Lush McCulloh, of Beaver Falls, Pa.

The firm has been giving steady employment to between fifty

Can you reduce your number of rejects ?



Yes, by insulating your kilns with SIL-O-CEL.

SIL-O-CEL is composed of billions of dead air cells which prevent the penetration of heat.

Where there is no escape possible for heat, the temperature is bound to be more uniform. Such being the case, the chances of certain products being burned while others remain unbaked is reduced to a minimum. In addition to this, there is a material saving in fuel—consequently a saving in dollars and cents.

Insulate your kilns with SIL-O-CEL and reduce the number of your rejects.

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A Machine That SAVES—Time, Labor and Money

The day of real efficiency has returned. Every operation in your clay plant must be performed in minimum time at the lowest possible cost.

The Marion Rust Special shown below, will help you to speed up your plant, and cut the cost by giving a perfect uniform mix to your clay at all times as well as keeping the off-bearers continuously busy. The investment in this machine is not an added expense. It pays for itself and keeps on saving for you.

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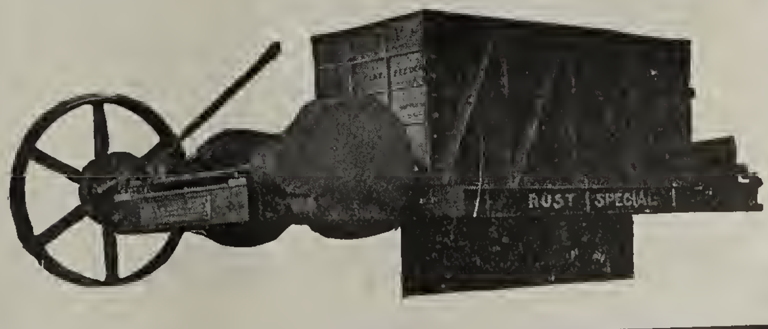

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ONLY those manufacturers who are using Barrett Spring-Frame Lift Trucks, equipped with rubber tires, realize fully the important and far-reaching economies effected by them.

Green tile, of concrete or clay, or complicated ornamental pieces, may be lifted and transported on pallets or racks, saving several rehandlings which consume time and cause breakage.

In many cases the necessity for trackage is eliminated, and space taken up by hot floors in fire brick plants is saved.

You owe it to your business to learn about Barrett Lift Trucks, Portable Cranes, Barrel Trucks, and Powerox (Gas Tractors). Write us for detailed information.

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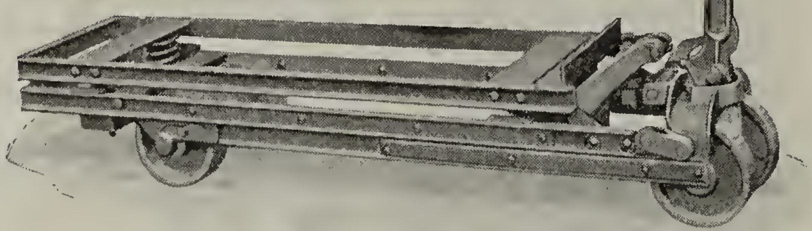

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PEABODY COAL COMPANY
FOUNDED 1883
OPERATING 36 MINES
WITH ANNUAL CAPACITY
OF
18,000,000 TONS

WE MINE AND SELL GOOD COAL

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PEORIA
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KANSAS CITY
MINNEAPOLIS
DEADWOOD, S. D.
SPOKANE, WASH.
SHERIDAN, WYO.

"PEABODY FOR SERVICE"

and sixty men, and has announced that as soon as insurance has been adjusted, steps will be taken to award rebuilding contracts.

Memphis Company Fairly Busy

The F. R. Thomas Clay Products Co., Central State National Bank Building, Memphis, Tenn., reports good activities in June in the Mississippi Valley. They do a car lot business and are supplying considerable terra cotta for building purposes and sewer pipe for drainage contracts in this section. They also handle wall coping, wall plaster, fire brick, composition roofing and hollow building tile.

Texas Plant Is Active

The Thurber (Tex.) Brick Co. is getting out a line of vitrified and paving brick and building brick. They also have a fertilizer and crushed stone plant at Tiffin, Ark. The general offices are now located at 1710 F. and M. Bank Building, Fort Worth, Tex.

Future for Northwest Looks Bright

Brick activity in the Northwest is encouraging. Erection of a new $75,000 building in Spokane, Wash., to be used as the permanent location of the Washington Brick, Lime & Sewer Pipe Co., will probably be started early next fall, according to V. E. Piollet, vice-president of the company. "The future looks very satisfactory, our orders for brick, terra cotta and other building products are substantial at present, altho not exceptionally large," he said.

Will Install New Equipment

The Williamson (W. Va.) Red Brick Co. has commenced enlargements at its plant for increased production. New equipment will be installed in certain departments.

Schober Brothers to Make Brick and Tile

Manufacture of brick and tile is contemplated by Rudy and Otto Schober, who have purchased a five-acre tract of land just outside of Monroe, Wis. Buildings, such as a dry kiln, sheds, offices, etc., are under construction and machinery is being installed. The organization will begin manufacturing within a few weeks.

New Tile Plant in Milwaukee

Announcement has been made of the incorporation of the Universal Tile Co., Milwaukee, Wis., with a capital stock of $15,000. Incorporators are Eugene Cafmeyer, Arthur Cafmeyer and Isabel Hansen.

To Increase Capacity by 25,000

James E. Rector, of the law firm of Rector, Blackstone & Taylor, Asheville, N. C., is interested in a brick company which expects to install additional drying and burning equipment. It is planned to add 25,000 brick per day to the capacity of the plant.

To Burn Clay in Electrically Heated Kilns

Announcement of a new brick and tile plant to be erected near Winnipeg has been made by C. L. Thompson, manager of the Martin Engineering Co. of Niagara Falls, Ont. The plant as proposed will have a capacity of 20,000,000 face brick per year. Experimental work has been carried on burning clay in electrically heated kilns. On account of the cheap power at Winnipeg it is claimed the burning can be done much cheaper than with wood. Mr. Thompson declared and expected that the demand for brick and tile would take more than the output of the plant.

American Clays Equal Imported Article

Very few persons have been aware of the fact that the United States Bureau of Mines has been making experiments and investigations of American clays at the Ohio State University. As a direct result of these investigations it will not be necessary for the country hereafter to depend on Germany for the high-grade graphite crucibles used for melting certain alloys and special steel needed for the manufacture of war materials.

The vast quantities of dolomite in Ohio are being converted into refractories for furnaces and in consequence we have not been required to look to Greece and Austria for them. A very important achievement in the experiments conducted by the U. S. Bureau of Mines has been the discovery of methods of refining and blending white clays making the pottery produced from these clays equal to that made from imported English clays.

When the war cut off all imports from Germany, manufacturers of graphite crucibles were forced to turn to American clays which had heretofore been considered inferior to the German "Klingenberg" clays. After investigation by the ceramic station at Ohio State University it was found that thirteen domestic clays in steel melting crucibles were superior to the German "Klingenberg" clay. As far as can be learned there are no German "Klingenberg" clays being used in America at the present time.

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High in Heat Units
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A very HOT, FREE burning COAL.

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CURRENT PRICES *of* COMMON BUILDING BRICK DRAIN TILE *and* HOLLOW BUILDING TILE

THO THE TREND of brick and tile prices is still downward, due to lack of activity in the building material markets, there is a perceptible steadying which would indicate that bottom has now been reached and any further reductions occurring will probably be of neglible quantity.

Out of the eighty-three cities listed below nineteen registered a drop in common brick during the month while in five cities the price advanced. Reductions for the most part were small, of the $1 and $2 variety tho Scranton, Pa., reported a $6.25 decrease. Chicago commons continue to hold low price honors with the $12 figure; Denver, however, is not far behind with a $14 price.

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Portland, Me.	**32.00**	.12	
Boston, Mass.	**20.00**	.153	68.50
Providence, R. I.	**28.00**	.16	
Hartford, Conn.	24.00*	.08	
New Haven, Conn.	**25.00**	.10	
New York City	**19.00**	.13	
Albany, N. Y.	**24.00**	**.09**	**200.00**
Utica, N. Y.	**24.75**	.074	
Syracuse, N. Y.	20.00	.07	135.00
Oswego, N. Y.	30.00	**.06**	
Binghamton, N. Y.	**22.00**	.06	
Elmira, N. Y.	30.00	.055	
Rochester, N. Y.	20.00	.075	100.00
Buffalo, N. Y.	25.00	.055	118.00
Jamestown, N. Y.	35.00	.085	120.00
Allentown, Pa.	19.50	......	**111.20**
Erie, Pa.	26.00	.0525c	**100.00**
Philadelphia, Pa.	20.00	.15	115.00
Pittsburgh, Pa.	20.00	.08	120.00
Reading, Pa.	21.50	.07	
Scranton, Pa.	**18.75**	.08	
Newark, N. J.	22.00	.09	120.00
Paterson, N. J.	20.00	......	
Trenton, N. J.	22.00	.10	
Wilmington, Del.	26.00	.10	125.00
Washington, D. C.	22.00	.08	130.00
Baltimore, Md.	25.00	.07	125.00
Norfolk, Va.	20.50	**.08**	**160.00**
Richmond, Va.	25.00	.10	
Huntington, W. Va.	18.75	.075	**85.00**
Fairmont, W. Va.	32.00	.06	120.00
Wheeling, W. Va.	**24.00**	.075	**110.00**
Atlanta, Ga.	12.50	.115	**87.60**
Miami, Fla.	28.00	.12	200.00
Tampa, Fla.	**20.00**	......	**137.50**
St. Petersburg, Fla.	21.00	......	**125.00**
Louisville, Ky.	20.00*	.045	101.10
Lexington, Ky.	21.00	.10	**107.50@**
Memphis, Tenn.	16.00	.05	**130.00**
Nashville, Tenn.	18.00	.08	134.70@
Birmingham, Ala.	23.00*	.07	116.00
New Orleans, La.	15.00	**.075**	
El Paso, Tex.	16.00	......	90.00
Houston, Tex.	**20.00**	.13	**115.10@**

Editor's Note.—The prices of the commodities listed above are reported as delivered on the job, and are, therefore higher than the plant prices. These prices are obtained from a sister publication, **Building Supply News**, and are sent to this paper by dealers in the various cities listed. **Brick and Clay Record** will appreciate any corrections. The prices marked in heavy type denote changes from last list.

Fluctuations in the four inch drain tile market are slight and only nine cities recorded any changes in the figure obtained last month. Drain tile prices have held much more consistently than building materials and the decrease has been very gradual and of comparatively small volume.

5x8x12 hollow building tile slumped in eighteen of the cities listed and advanced in five. In the case of Columbus, Ohio, this commodity dropped $44 to $41 per thousand. Other price changes are not so startling, the average reductions being probably less than $10 per thousand.

	Common Brick Per M	Drain Tile (4″) Per Ft.	Hollow Tile (5x8x12) Per M
Dallas, Tex.	20.00	.15	100.00
Topeka, Kans.	35.00	.105	110.00
Little Rock, Ark.	12.50*	.10	
Oklahoma City, Okla.	**18.50**	.04	**93.00**
Cincinnati, Ohio	18.00*	.0708	75.50¶
Cleveland, Ohio	**15.00**	**.055**	**63.00**
Columbus, Ohio	**19.00**	**.06**	**41.00**
Toledo, Ohio	**19.00**	.06	**90.00**
Detroit, Mich.	18.00	.07	95.00¶
Evansville, Ind.	**14.50**	.031	**70.00**
Fort Wayne, Ind.	19.00	.05	110.00
Indianapolis, Ind.	**18.00**	.06	85.00
South Bend, Ind.	20.00	.04	115.00
Terre Haute, Ind.	20.00	......	
Bloomington, Ill.	22.00	.05	100.00
Chicago, Ill.	12.00	.06	93.75
Moline, Ill.	19.00	.085	**92.00**
Peoria, Ill.	18.50	.0697	78.00
Green Bay, Wis.	**14.00**	.04	110.00
Milwaukee, Wis.	**18.00**	.06	120.00
Grand Rapids, Mich.	18.00	......	
Minneapolis, Minn.	**18.00**	.07	**100.00**
St. Paul, Minn.	**18.00**	.07	**100.00**
Davenport, Iowa	**20.00**	**.07**	**123.00**
Des Moines, Iowa	22.00	.11	**90.00**
Sioux City, Iowa	19.50	......	**100.00**
Kansas City, Mo.	22.00	.0625	100.00
St. Louis, Mo.	17.00	**.08**	85.00
Lincoln, Neb.	**17.25**	.08	**75.50**
Denver, Colo.	14.00	.08	**100.00**
Butte, Mont.	**21.00**	......	
Los Angeles, Calif.	15.00	.05	100.00§
San Diego, Calif.	20.00‡	.105	**120.00§**
San Francisco, Calif.	20.00	.05	112.00
Portland, Ore.	19.00	.085	100.00
Seattle, Wash.	**16.00**	.09	110.00
Winnipeg, Man.	19.00	.13**	181.00
Toronto, Ont.	18.00	.08	
Halifax, N. S.	20.00	......	
Quebec, P. Q.	18.00	.065	

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*Hartford, sold by mfrs. only; Little Rock, mfrs.' price, drayage $2 to $5 per M. extra; Louisville, mfrs.' retail price $27.00, 5% dis., 15 days. Cincinnati, f. o. b. cars.

‡Carlot rate, San Diego.

¢Erie, drain tile, per C.

£Boston, hollow bldg. tile, per ton.

££Houston and Dallas, same price applies to Interlocking tile.

¶Cincinnati, hollow bldg. tile, f. o. b. cars 5% discount 10th of month following shipment; Detroit, 2x12x12 price.

**Winnipeg, drain tile, subject to 5% discount if paid by 15th.

§Los Angeles, Heath tile; San Diego, sizes 4x12x12 and 6x12x12.

@Hollow tile, Lexington, Nashville and Houston f. o. b. cars.

"We believe that these times more than ever demand of all of us THRIFT, INDUSTRY and HONEST SERVICE." We began our last advertisement here with these words and we may begin the next one the same way. We believe it is good to repeat such homely sayings.

One thing that "Honest Service" means to us is proper preparation of our product. Nature has made Indiana Fourth Vein Coal an excellent fuel for your use and we are fortunate in having some of the best that she has produced. We add to this, as a part of our service, human intelligence and modern machinery in cleaning, sizing and preparing our coal to meet your needs. We want to make new friends by truly serving them and we hope to hold our old ones in the same way.

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FOURTH VEIN COAL

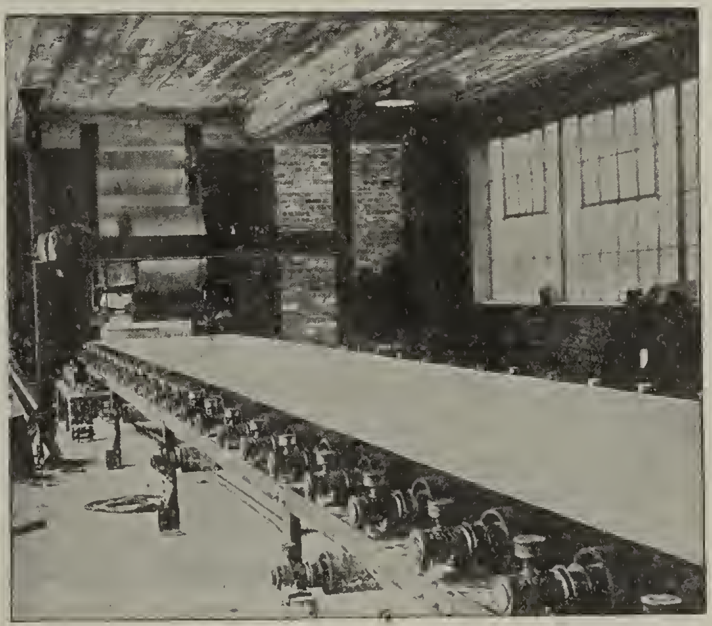
WELLER MADE CHICAGO

THIS MARK
ON YOUR EQUIPMENT
INSURES SERVICE

Weller Made Machinery

Handling the loose materials and finished products will enable you to increase the output and greatly reduce your operating expenses.

Equipment built to meet your requirements.



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SALT LAKE CITY
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The BUILDING SITUATION *in the* EAST

THE PAST FORTNIGHT in the building industry in the eastern districts shows increased speculative construction, increased call for bids on projects and increased orders for building materials. Each month is exhibiting a better average than the preceding thirty-day period, and with general business conditions gradually improving, there is no reason why the construction industry will not follow this trend.

The fight that workers are making to maintain present wage scales is more or less of a fight in vain, for the attitude is for a downward movement in hourly schedules, and the majority of cases arising and now nearing settlement show that employers are winning out, and the open shop movement is gaining great impetus in the final reckoning. The pity of it is, tho, that the arguments, pro and con, should come at a time when builders were about ready to launch their projects, working just enough handicap and dissatisfaction to set things back for several weeks.

FREIGHT RATES WILL BE LOWERED

In the matter of material prices the railroad situation has much to do with prevailing market hesitancy. There is every reason to believe that freight rates will be lowered, and not at a very remote future date; in this event, naturally, building supplies will gain a benefit, and reduced prices will obtain. So confronted, the prospective builder is still waiting, hoping to gain a substantial saving thereby. While this may come to pass, the present day has many points of merit to endorse immediate construction, and with labor and materials plentiful, the progressive builder is taking time by the forelock, and building now.

The different important eastern sections show the following trend of affairs:

New England: Steady improvement marks the path of the building industry in the leading New England districts. Contracts awarded in this territory are now aggregating over $5,000,000 weekly, as compared with approximately $4,000,000 a month ago. The totals, while considerably less than a year ago, line up favorably with all other years dating from 1913, being in excess of every year save that of 1916.

As is to be expected, the advance in construction work is bringing an increased call for building materials, and brick and other primary commodities are moving at a better rate. The looked for decrease in freight rates seems a near possibility, taking the action of the New York, New Haven & Hartford Railroad in cutting sand and gravel haulage charges as an indication of a similar attitude on the part of other construction commodities.

THE LABOR SITUATION

Labor is quieting down in this district to a condition of being reconciled to lower wages, and with the open shop now operative in a number of cities, as recently recorded in these columns, operations are going forward without any difficulty on this score. In the North Shore district, near Boston, carpenters have accepted a reduction of from $1 to ninety cents an hour, and it is expected that a similar ten per cent. decrease will be made in the case of workers in all other lines, with the exception of the bricklayers.

Contractors of Massachusetts have perfected a new organization, to be known as the Associated Contractors of Massachusetts. Headquarters have been opened in the Brewer Building, Worcester. The state is divided into five districts, each to have a local association chapter, which will meet monthly; the main organization will hold quarterly meetings. A total of twenty cities and towns is represented in the association at the present time. P. J. Kennedy, Jr., Holyoke, has been elected president, and E. C. Haselton, of the same city, will act as secretary and treasurer. Mr. Haselton will give his entire time to association work, resigning his position with the Casper Ranger Construction Co.

MATERIAL PRICES HOLD STEADY

Brick prices, and quotations on other burned clay products hold at recently established levels in the Boston market, and while there is a downward pressure in the general tone, prevailing figures are not likely to show great change within the next few weeks. New York brick is being sold at $19 a thousand, delivered, and Connecticut production at $23 and $23.50; face brick ranges from $35 to $45, delivered on the job, according to selection, and fire brick holds at established levels of $55 and $65. Hollow tile, partition tile and other important burned clay goods are operating under a fair market, with present figures giving stability in aspect.

Providence, R. I., dealers have dropped in prices of brick and a number of other basic materials. Common brick is now being quoted at from $28 to $30 a thousand, delivered, as against figures varying from $4 to $5 higher a few weeks ago. Fire brick is selling from $80 to $100 a thousand, according to character, while fire clay is being retailed at $1.50 a bag. Drain tile, 3 inch, is being turned at 12 cents a foot, and 4 inch material at 16 cents; flue lining, 8½x8½ inch, is 45 cents per foot, 8½x13, 67 cents, and 13x18 inch, $1.31. Partition tile, 4x12 inch, is $220 a thousand, and the larger size, 8x12 inch, $390.

OPERATIONS CONTINUE AT NEW YORK

New York: Gotham is more and more approaching betterment in the construction industry, and speculative building is becoming a feature of operations for the first time in many months. The Brooklyn district, particularly, is showing a marked increase in this direction, with house and apartment construction occupying a primary share of attention.

Mortgage loans are more readily securable in the New York district and a number of insurance and investment companies are putting out money on realty. Among these, the Metropolitan Life Insurance Co. has recently authorized mortgage loans to an amount of nearly $9,000,000, and of which approximately $7,000,000 is for dwelling work. While these funds are scattered in different parts of the country, a large proportion will remain in the New York district, no less than twenty-one apartment houses, to house 998 families being represented by an amount of $5,555,000. It is said that this company alone will place loans on realty to the extent of $35,000,000 in accordance with a present investment program.

IN NORTHERN NEW YORK

The northern New York districts are following the lead of the Greater City, and the past fortnight shows a slow, but firm revival in construction work. At Buffalo, there is a growing tendency to build homes, and architects are busy with forthcoming projects of this character. The Board of Education in this city has plans under way for the erection of four intermediate schools, each to cost about $950,000, and utilizing large quantities of brick, hollow tile and other burned clay products.

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GOODMAN
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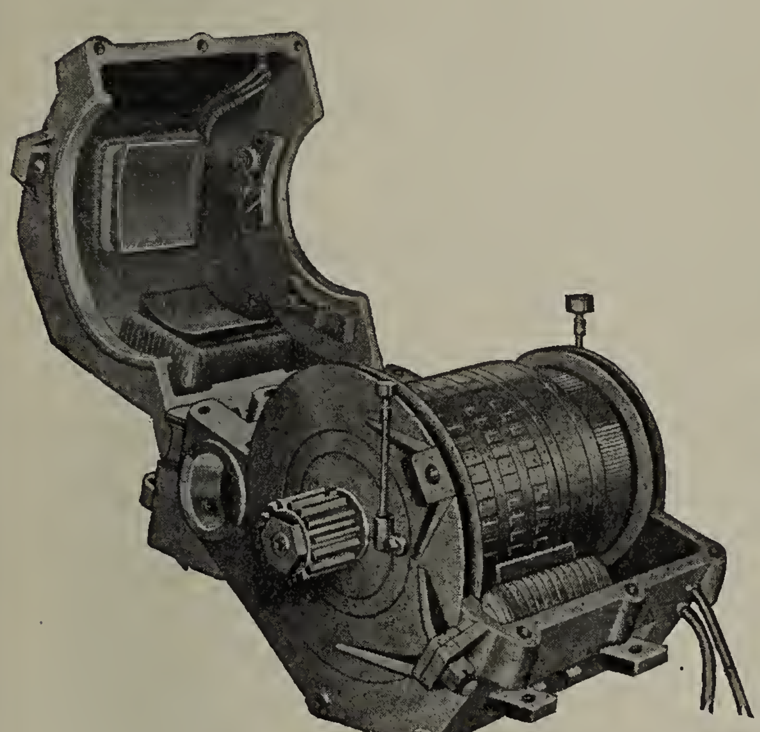
Haul Clay The Electrical Way



This is one of the powerful Motors of a

GOODMAN ELECTRIC LOCOMOTIVE

They can be depended on to work steadily year after year.

Let us tell you about one Goodman Electric Locomotive purchased in 1899 and still on the job in Southern Illinois.

Sizes: 1 to 50 tons.
Gauges: 18 to 56½ inches.

Goodman Manufacturing Co.
48th to 49th Streets on Halsted
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Heat-resisting Furnace Lining
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Plastic, yet when properly baked and vitrified PLIBRICO—Devil's Putty—shaped into walls, baffles or arches makes one-piece, heat-resisting fire brick as strong as rock and impervious to heat.

Destruction of boiler settings always starts in the joints. Mortar falls out and clinkers find a splendid vacancy to fill. They fuse to the brick ends and when broken off take part of the brick with them. Patchwork repairs are necessary and frequent until finally a new setting is demanded.

PLIBRICO
JOINTLESS
FURNACE LINING

settings eliminate all this trouble. No mortar to fall out—no crevices to disintegrate. PLIBRICO withstands temperature up to 3100° F. Its smooth, jointless surface leaves no place for clinkers to lodge.

If your furnace does not give service it was not lined with PLIBRICO.

PLIBRICO comes neatly packed in large steel containers as shown below. We make prompt deliveries from stock carried in all principal cities. Building the setting is a quick and simple task.

Our interesting booklet S3 tells just how to do it. Write for a copy today.

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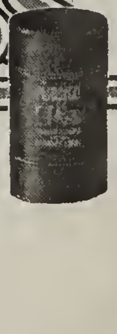

Rochester, Syracuse, Utica and other important cities in the northern New York territory are coming forward with spring construction to an extent that looks decidedly interesting for the local building material dealers, contractors and others in the industry. The bulk of work is centered in house and apartment construction, with garages and other miscellaneous buildings closely following.

NEW YORK BRICK MARKET

The betterment in the New York brick market, referred to in the last issue of *Brick and Clay Record* continues, and there is a gradual, steady trend towards greater activity and improved conditions. Heavy cargoes from the Hudson River yards have been received during the past fortnight, and practically all available common brick in the market has been absorbed. Brooklyn continues to lead in the matter of distribution, and no less than one-half of the fifty-four cargoes received during the last week in May found their way to this district. New Jersey is also drawing a little on the supply.

Prices of common brick show no change in the New York market, and with the ready disposal of available cargoes at the prevailing levels of $14 and $15 a thousand, no immediate fluctuation is anticipated. The supply is just about equal to the demand at the present time as no producer is inclined to stock heavily in the face of present conditions, and the general plan for the season will closely follow a production in accord with call.

New Jersey: It does not require guesswork or supposition to understand that construction work is on the increase in New Jersey, and leading cities of the state are showing an aggressive attitude in connection with spring and summer operations. The tendency towards a revival in the building industry has been noted in the recent issues of *Brick and Clay Record,* and can now be substantiated with figures.

FILE PLANS FOR EIGHTY-THREE DWELLINGS

The month of May proved a banner one at Newark, without any pronounced stimulus in the line of large structures to boost the construction totals as recorded at the local building bureau. The month rounded out an aggregate of $2,195,000, with housing a primary feature of operations. Plans for no less than eighty-three dwellings were filed, to accommodate 292 families, with total cost placed at $1,305,000. A good proportion of these buildings are of brick or other fireproof construction. This growth in housing operations is all the more apparent when it is stated that totals for such class of construction were but $18,200 in January last, with each month showing an advance, hitting a high point in April with an amount of $678,641. The May aggregate noted, is almost twice this sum.

South Jersey can also be said to show a strong trend towards real construction revival, and such places as Trenton, Camden and Atlantic City are recording far larger totals than prevalent a few months ago. At the last noted place, current operations and projected construction are heralded as the commencement of a boom in the industry in this section.

LABOR CAUSES DIFFICULTIES

Labor dissentions still prevail in certain parts of New Jersey. Union men are still out on strike at Newark, protesting against the proposed wage reduction of the employers. Conferences are now being held in an endeavor to settle the differences. At Perth Amboy, the refusal of the men to return to work under reduced wages, has lead to the establishment of the open shop, and local contractors are now determined to operate under this plan. About $15,000,000 worth of building is being held up at Trenton, owing to a strike of workers in protest to a suggested wage reduction of twenty per cent. Employers are seeking to bring the hourly levels to a point of those prevailing in other parts of the state. Bricklayers and plasterers have been receiving $1.20 an hour in this city.

The New Jersey material markets are featureless. While there is a slight indication of lowering of levels, the movement is one covering the less important commodities, and such products as brick, tile and other burned clay goods are holding to previous quotations. Common brick is selling in the different districts from $18 to $22 a thousand; fire brick, from $65 and $75 to $90 for high grade material; face brick, from $38 to $55, according to selection. Partition tile is around $180 for small sized material, to about $280 for 6x12x12-inch stocks.

PHILADELPHIA BEGINNING TO PICK UP

Philadelphia: Constant "coaxing" is having its effect in the Quaker City and construction operations are moving upwards. The month of May shows an aggregate of $3,569,890 for building valuation, in accordance with permits issued for work by the local building department. Of this amount, close to $1,000,000 is for housing work, and in which line the city is in great need; garages were built to a valued amount of $395,000; and building alterations and additions, $970,500. The total noted is the best May record for the city since 1914, when operations reached a value of $6,264,000.

Labor is righting itself in the Philadelphia districts, and during the past fortnight there has been a growing inclination on the part of men to bide by the Philadelphia contractors' decision to reduce wages and operate on an open shop. At Easton, carpenters have accepted a wage reduction of ten cents an hour, or from eighty-five to seventy-five cents. A strike of the men occurred on May 1. Norristown carpenters have voted to accept a reduction from $1 to ninety cents. Bricklayers at Pittsburgh have voluntarily offered to reduce their wages from $12 to $11 a day, to stimulate construction in this section. Local contractors, however, are demanding a reduction to $9 a day.

Common brick is showing decided stability at $20, and local manufacturers do not anticipate any immediate change. Fire brick is selling for $75, and face brick from $35 upwards. Hollow tile is in fair demand for garage and other construction, while different burned clay products, such as drain tile, sewer pipe, wall coping, etc., are moving rather slow.

* * *

Southern Brick Men Endorse National Campaign

Southern common brick manufacturers evinced considerable enthusiasm in plans for a national publicity compaign during a recent trip of Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America, during a recent trip thru the South.

The Georgia meeting, held at Columbus, was an unqualified success. Georgia is one of the largest common brick manufacturing states in the country, and the manufacturers of Georgia signed up for the national campaign to a man. The high grade brick made in Georgia is well known thruout the South, and the enthusiasm and support of the Georgia men will be an important factor in the work of the national association.

* * *

Record Output of Fuller's Earth in 1920

The production of fuller's earth in 1920, according to a statement made public by the United States Geological Survey, Department of the Interior, was 128,487 short tons, valued at $2,506,189, or $19.51 per ton. This represents the largest output of the largest average price ever recorded. Florida is the country's largest producer, with an output of about eighty-five per cent. of the total. The imports of fuller's earth in 1920 were 19,235 short tons, valued at $221,893, or $11.54 a ton.

The Gateway to Better Things

BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men— in the only way that he can—in books. If you would be master of your work you must read and know what others know.

Brick Drying (English edition)	1.00
Bricklaying in Modern Practice	1.20
Bricklaying, Rudiments of Practical	.75
Bricklaying System	4.00
Brick Work (Walker)	.85
Brickwork and Masonry	3.00
Building Construction and Superintendence, Part 1, Masons' Work	6.00
Bungalows, Camps and Mountain Houses	2.00
Ceramic Industries (A Treatise on) E. Bourry	6.00
Clay Plant Construction and Operation	4.00
Clays: Their Occurrence, Properties and Uses	5.00
Clayworkers' Handbook	6.50
Clay Working Problems	1.50
Directory of Dealers	.50
Engines and Boilers	1.50
Engineering for Land Drainage	2.50
Estimating Frame and Brick Houses	1.50
Finding and Stopping Waste in Modern Boiler Rooms, Vol. 2	1.00
Garages and Motor Boat Houses	2.00
Glazer's Book	1.25
Hollow Tile Silo, 100 copies	5.00
How to Build Up Furnace Efficiency	1.50
Land Drainage	2.00
Manufacture of Roofing Tile, (English Edition)	1.25
Manufacture of Roofing Tile (Worcester)	.75
Modern Brickmaking	7.00
Observations on Pottery	.60
Powdered Coal as a Fuel	4.50
Practical Farm Drainage	1.75
Producer Gas and Gas Producers	4.00
Refractories and Furnaces	5.00
Rock Excavation, Handbook of	5.00
Scientific Industrial Efficiency	2.00
Scumming and Efflorescence	.50
Silo (The Hollow Tile) 100 copies	5.00
Steam Power	2.50

Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent. import duty.

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Brick and Clay Record
610 Federal Street, Chicago, Ill.

IT IS TRUE THAT SMALL CLAY PLANTS DO NOT HAVE A LARGE ENOUGH OUTPUT TO WARRANT HEAVY, HIGH PRICED EXCAVATING MACHINERY — BUT THAT DOES NOT PREVENT THEM FROM EMPLOYING LABOR SAVING DEVICES SUCH AS THE ONE MAN EXCAVATOR.

This excavator is built especially for the small clay plant. The plant making from 25 to 100,000 brick per day. It is light, economical, durable, quickly installed, capable of running in any kind of weather—AND—it saves the labor of several men.

READ WHAT MR. MUMMA of the Haviland (Ohio) Brick Co. says about his ONE MAN EXCAVATOR.

"We find THE BAY CITY EXCAVATOR works to our entire satisfaction. One man and the machine digs all our clay and the operator is only at his machine a fraction of the time. This lets him free and gives him plenty of time to remove the straw covering from the bank, place the tracks, and take care of the machine, ETC.

"The wide cutting saves moving the track often. The excavator works on its own track made up of four foot rails which are taken up and relayed by the operator.

"The machine displaced a gang of men which could not keep clay spaded fast enough for our consumption even under the most favorable conditions—much less when frozen straw, snow or bad weather complicated matters.

"As we write the wet snow is falling and men would not think of working outside, yet the merry chuckle of the exhaust of the excavator tells us it is operating continuously."

Write Us Today For Full Information. No obligation.

The Bay Bity Dredge Works
BAY CITY, MICH.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

"The Designing Staff"

The following item and group photograph are taken from the May issue of *American Clay Magazine*, the house organ of The Hadfield-Penfield Steel Co., Bucyrus, Ohio:

"Mr. Clay Worker, meet our Engineering Department."

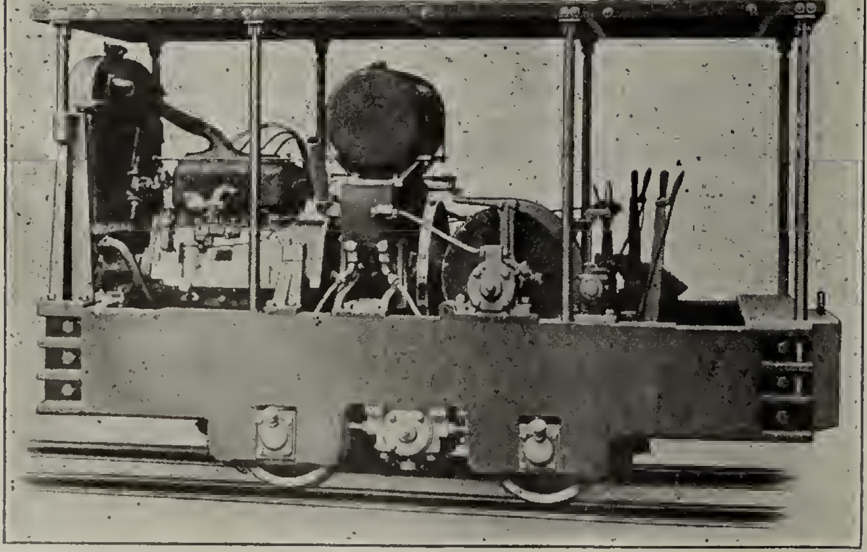
"The accompanying picture shows the Engineering Department of The Hadfield-Penfield Steel Co. These are the fellows who properly proportion the big line of the company. They see that each machine will properly function, that the proportions are such as will make them 100 per cent. strong and efficient. That they are beyond question in quality, speed and thoroughness. In fact they are the God Fathers of every new H. P. infant and see that he is so ushered into the world that it is 'Built Right' and will 'Run Right.' That Hadfield-Penfield Steel Co. is justly proud of its line and the foundation for the pride is attributable to no small extent to the Engineering Department. If you have problems to solve this department will assist you."

* * *

Lakewood Cars, Locomotives and Track for Brick and Clay Plant Service

In clay pits where the point from which materials are handled its constantly changing, narrow gauge portable railways afford an adaptability not found in any other type of haulage.

For the movement of narrow gauge cars, the Lakewood-Burton Locomotive, made in 3½ and 6 ton sizes, and in track gauges from 24 to 56½ inches, has many advantages. On a fairly level track the 3½ ton locomotive will haul approximately 40 tons of load at equal speed in either direction. The 6 ton locomotive will haul approximately double this load. This capacity is of course reduced somewhat on grades, in proportion to the per cent of grade.

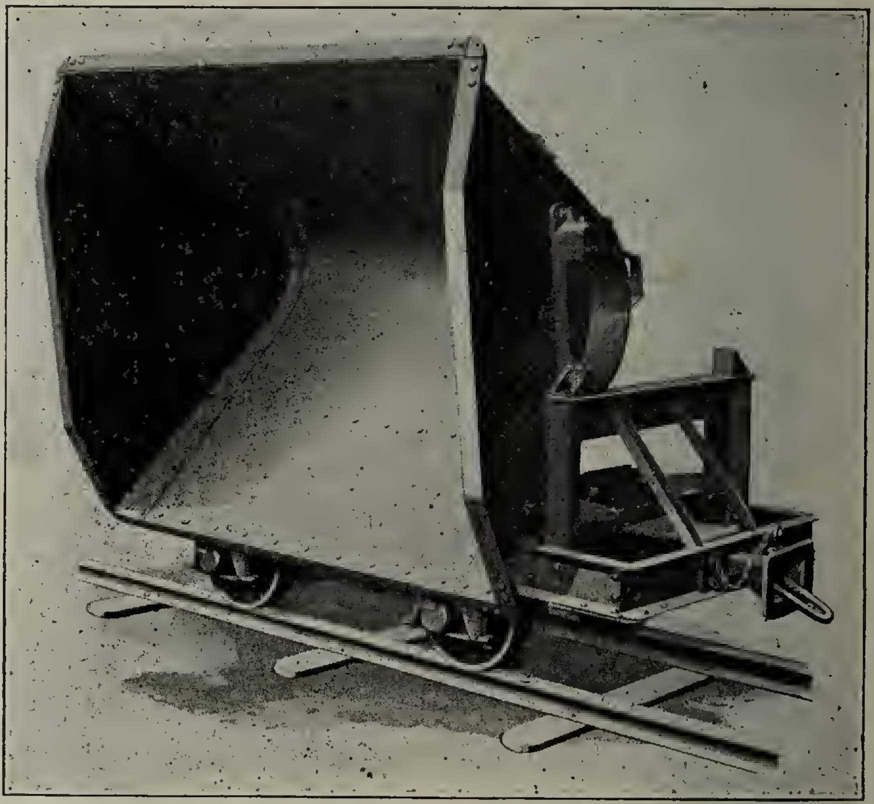


Burton-Lakewood Locomotive

One of the principal features of the Lakewood-Burton Locomotive is its power transmission thru a friction disc reduction instead of gears. The friction disc, mounted on the engine shaft, is machined to a true face and accurately balanced to run at high speed without vibration. The spur friction disc, running at right angles to the larger disc, and with which it makes contact, is faced with a heavy tarred fibre. The speed of the locomotive is varied by moving the spur disc towards the center of the larger disc to reduce the speed, and toward the edge to increase the speed. This movement is controlled by a hand wheel convenient to the operator, and locked in any desired position.

The haulage capacity of any locomotive may be greatly increased by a careful selection of the proper type of cars. The pull required to move one ton of material piled on the cars may vary from 10 lbs. to 50 or 60, depending altogether upon the running gears of the cars, and the smoothness of the track. If the car bearings are not properly lined up and cared for the cars will not roll as easily as when the bearing boxes are self-aligning and fitted with good roller bearings.

Lakewood Clay Cars have high carbon heat treated axles running in roller bearings enclosed in dust proof self oiling boxes. The side dumping body is mounted on a sturdy frame built up with side and center sills running from end to end of the car, giving great strength against collision and rough coupling. The bearing boxes each have two heavy coil springs which carry the weight of the body and load. These springs not only ease the whole frame of the car but help to hold the wheels on the rails when crossing bumps and track joints. The bodies of Lakewood Clay Cars are designed to handle clay, sand, earth, and other materials, either wet or dry. Lakewood Clay Cars are furnished in 1, 1½ and 2 yd. capacity, and in track gauges from 24 to 36 inches.



241 Car for Locomotive Haulage

Lakewood narrow gauge track, for temporary or permanent installation, is equipped with pressed steel ties, flanged all around, and riveted to rails to secure rigid section. Joint ties lock sections securely and take the place of four fish plates and eight bolts and nuts. Nothing to come loose. May be taken up and relaid repeatedly.

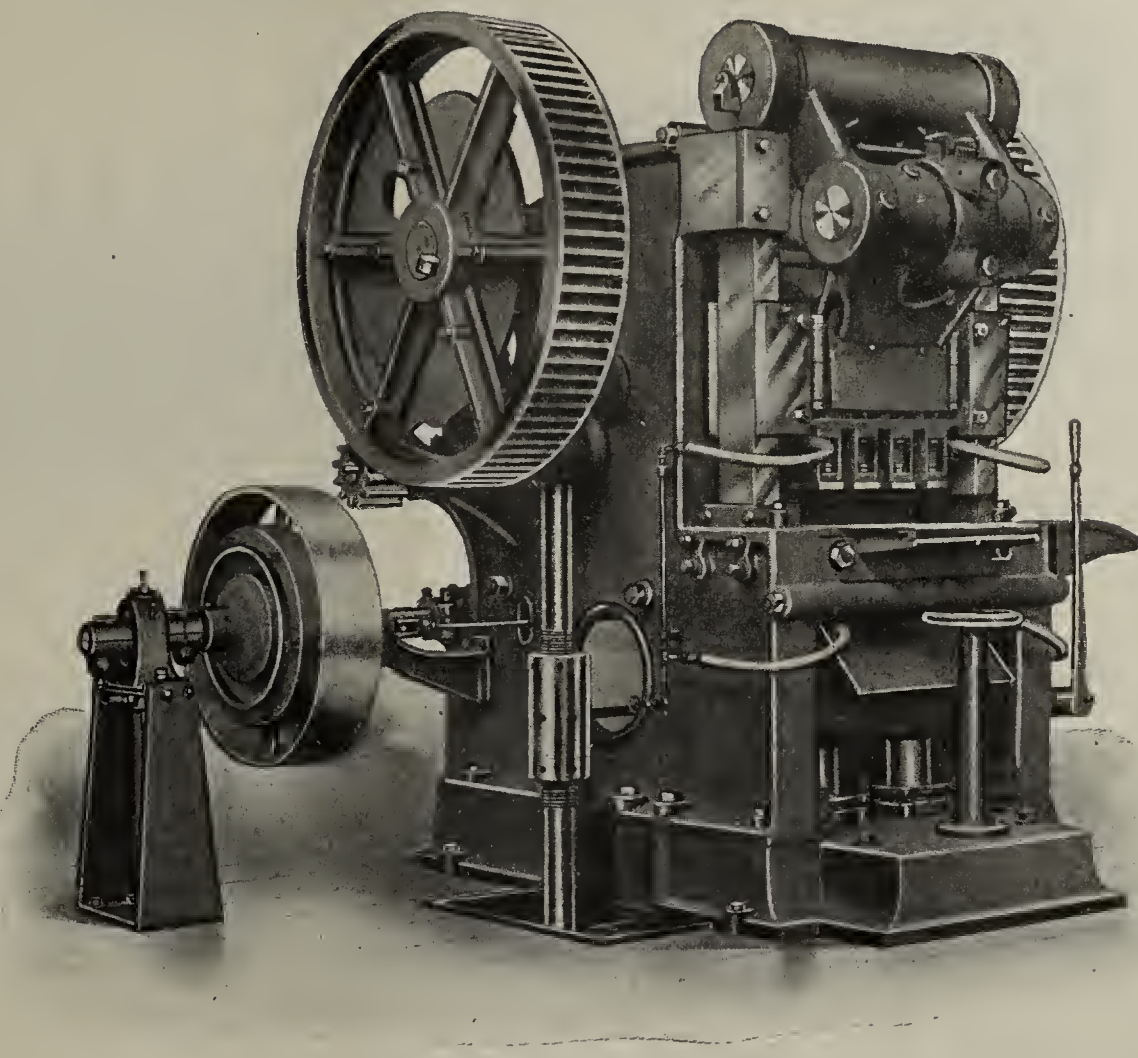
Lakewood narrow gauge railway equipment is properly designed for brick and clay plant service. Its use means increased tonnage, lower upkeep costs, and decreased costs per ton of material handled.

* * *

The Weller Manufacturing Co., 1820 N. Kostner Ave., Chicago have issued a revised price list for their catalog No. 30, devoted to chains and sprockets. When writing for it specify Bulletin No. 109.

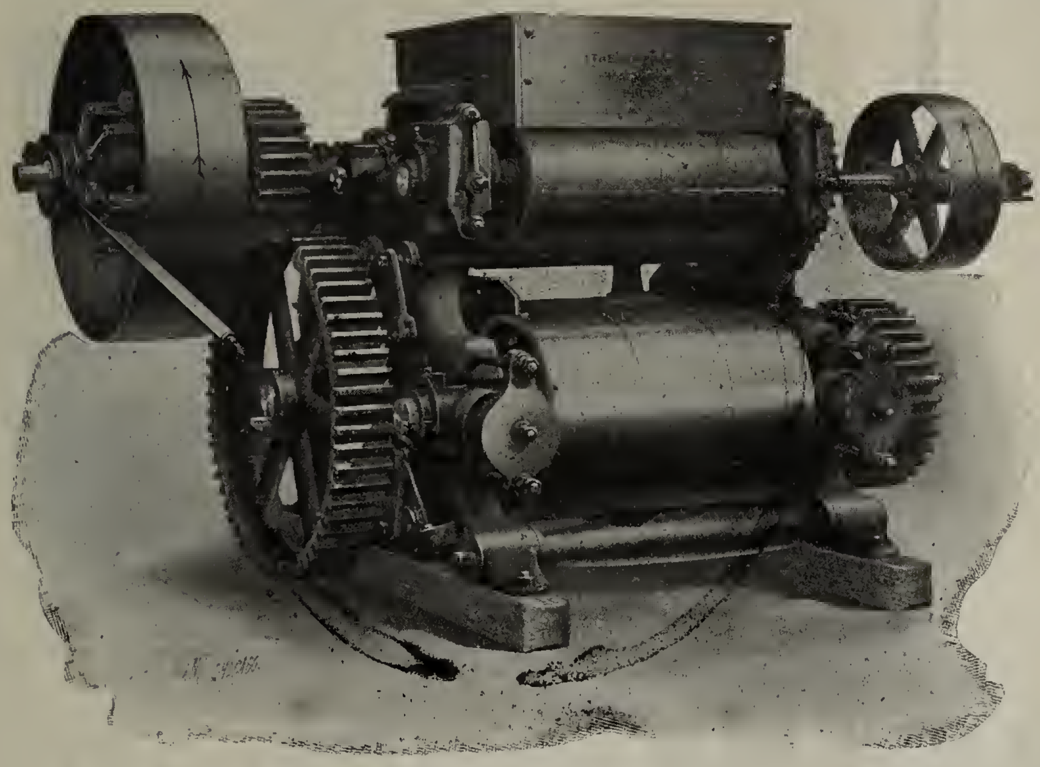
American Model "C" Dry Press

For dry press brick the American Model "C" Press is highly recommended. It has excess strength, simplicity and speed. It makes brick of superior quality, dense with true edges and smooth sides. Get the Model "C" Bulletin, it's free for the asking.



American Model "C" Dry Press

American No. 10 "D" Crusher



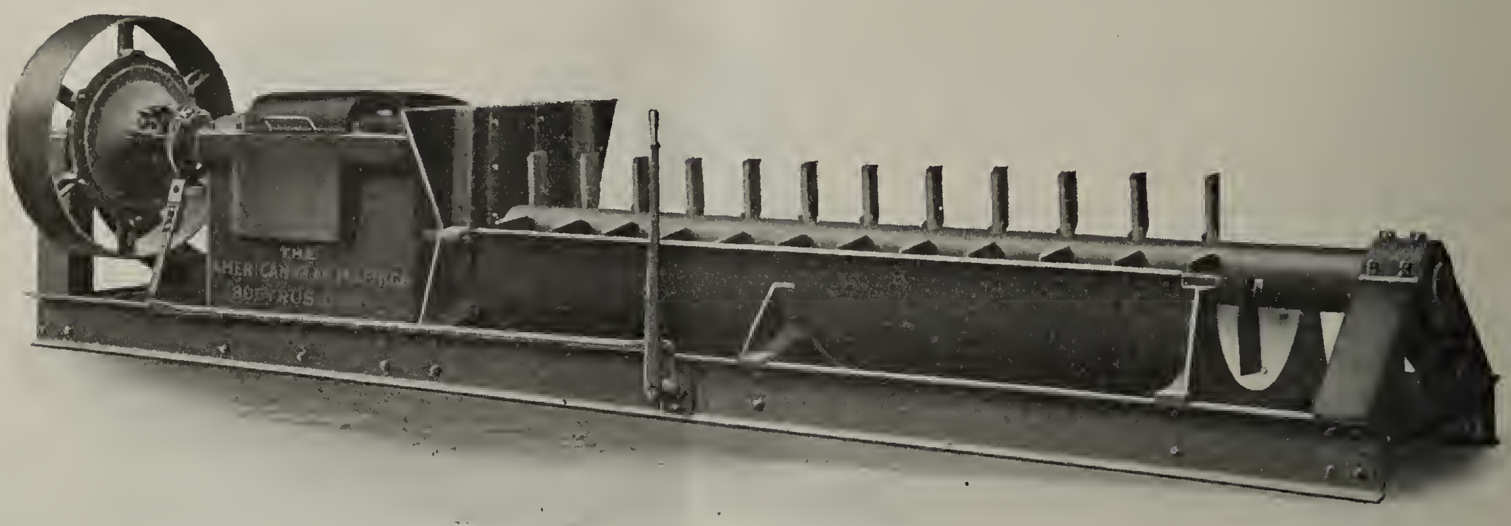
American No. 10 "D" Crusher

This American No. 10-D Crusher is a favorite with Clay Plant owners. It has many superior features and will be found dependable to the limit. It's built for capacity and will be found extremely simple and satisfactory. Get the No. 10-D bulletin for all the details.

The Hadfield-Penfield Steel Company, Bucyrus, Ohio

Formerly The American Clay Machinery Co.

American No. 354 Granulator



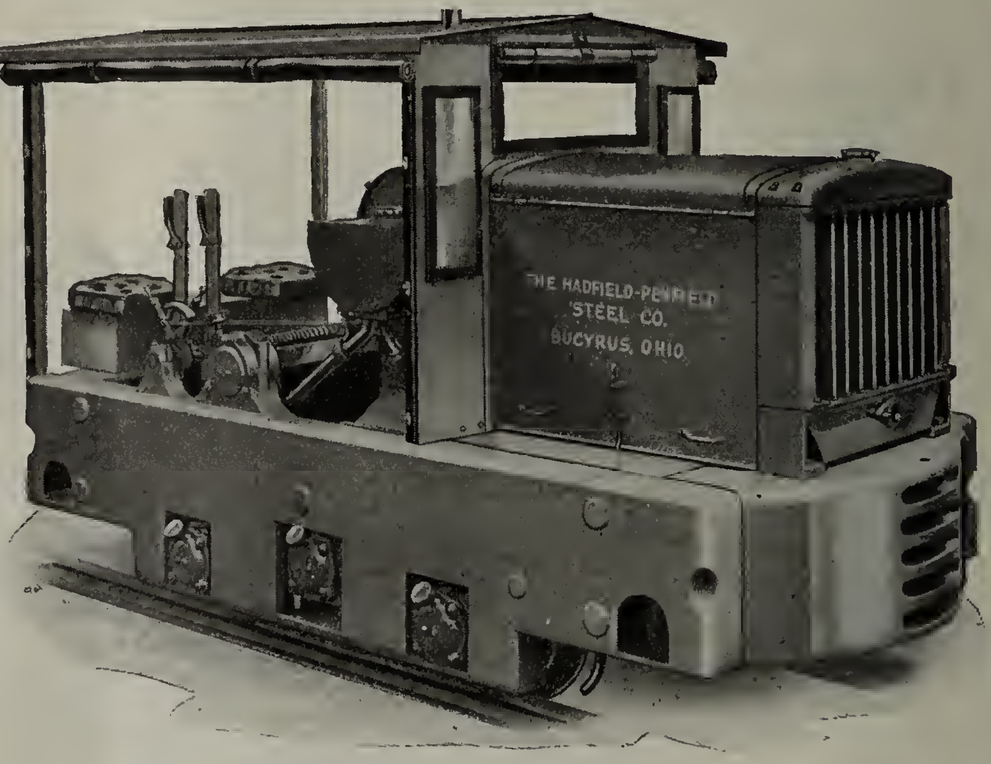
American No. 354 Granulator

The American No. 354 Granulator is a superb machine. It is splendidly built and is thoroughly reliable for producing a maximum output of well prepared clay. It will pay you to get posted on the superior qualities of this machine. We have a Bulletin, No. 354, which will tell you all about it. Drop us a line asking for this bulletin and particulars about any clay working machinery or appliances in which you may be interested. We build them all.

American Gas-O-Motive

The American Gas-O-Motive is the Clay Worker's best friend when it comes to reducing clay haulage cost.

It is built to haul heavy loads and to negotiate reasonable grades. We suggest that you get in touch with us on this haulage proposition. We want to show you one of these Gas-O-Motives on the job.



American Gas-O-Motive

THE HADFIELD-PENFIELD STEEL CO.

Formerly The American Clay Machinery Co.

BUCYRUS, OHIO

Gasoline Locomotive Sales Dept., 404 Hippodrome Bldg., Cleveland, Ohio

BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

A PLAN THAT SHOULD ENCOURAGE HOME OWNING

AN INNOVATION plan for a permanent home exposition is described in an article in this issue which is reprinted from *Building Supply News*, a dealer publication. The extraordinary scheme, which is backed by a prominent Chicago capitalist, is deserving of the encouragement of the entire construction industry.

The construction industry, which in importance is rated second only to agriculture, has sales problems peculiar to itself, in that its products are sold unassembled. This undoubtedly has restricted home building to some extent, because the "appeal to the eye" argument could never be forcibly used. Thus, instead of a beautiful dress or an attractive automobile, which is realistic, only the component parts or the plan and photograph could be shown. This, however, is only visionary and unrealistic.

The Chicago plan is the first real attempt to improve on former marketing methods. It must be admitted that the construction of a home besides offering difficulties due to the many contracts and details that must be taken care of, is made more complex because the builder can only have a mind vision of what the final result will be. Too often the home owner has been disappointed in the outcome of his building, which has failed in some manner to measure up to the proportions of his vision. Moreover, a home, unlike commodities such as clothing, foodstuffs and furniture, cannot be returned, and when once secured, remains quite permanent.

The home exposition plan should alleviate this condition. It should enable the builder to plan and visualize better his dwelling complete. It should make his dream more realistic and simplify the whole matter of home owning. In fact, it should make home-owning more attractive. Any scheme that will do this should be adopted in every city large enough to warrant such a project.

* * *

AMERICAN INDUSTRY

IN ALMOST EVERY BRANCH of the clay industry there are some plants suffering from the government's inaction to provide protection from competition of clay products manufactured in foreign countries. This issue contains considerable evidence on this score. A member of the United States Potters' Association, who has traveled extensively in foreign countries and studied pottery conditions, and who is a close student of tariff, discusses labor conditions in ceramic industries in competing countries which would be impossible in America, and according to practices, that would be condemned by our government.

In the heavy clay products manufacture, conditions are correspondingly the same. The result of low wages, together with the employment of women and children in foreign countries, enables foreign products to be manufactured at a ridicuously low cost. On top of this, there is the advantage the foreign concern has due to the difference in money exchange.

The inroad made into the American ceramic industry is indicated by the figures which show that for the past ten months of the fiscal year, the imports of ceramic materials from Germany into this country increased from $400,000 in 1919 to $2,500,000 in 1921. Importation from Japan and other countries has also increased. A letter from a western manufacturer, which is reprinted in the "Letter Box" in this issue, shows the inroads being made into the territory of refractory plants in the West by the importation of hundreds of thousands of Scotch and English fire brick which are hauled over as ballast and dumped into American markets with a small tariff of ten per cent. and then sold for a less amount than America can manufacture and deliver the product for.

Another letter which is reprinted in full in the "Letter Box," and which was received from a brick manufacturer in one of our oriental possessions, the Philippine Islands, reports conditions that are by no means a credit to our government. The situation is in direct opposition to American ideals. After establishing with difficulty, a brick plant in the Philippine Islands, a manufacturer has successfully operated a plant and reduced the price formerly required to be paid for foreign products imported from China and Japan.

Foreign brick are now being dumped into the Philippines at prices that disregard cost and the practice, if it be permitted to continue, will drive American and Filipino brick manufacturers out of the market. This would only result in prices going up again. Yet, this practice has even been encouraged by the United States government which recently gave an order to a Japanese firm despite the fact that the next lowest bid was that of an American whose figure was only 50c per thousand above that of his foreign competitor.

These are actual evidences of the need for a change in policy and greater protection for American industry. In a case like this, as well as in general building legislation, freight rate questions, protection, and so forth, a central committee composed of representatives of each national clay association, could be of great benefit to the ceramic industry.

* * *

GOVERNMENT SHOULD FOSTER TRADE ASSOCIATIONS

RIGHT NOW much attention is being directed toward the trade association. Investigations into the building situation in New York and other cities has in innumerable cases resulted in a vigorous attack on some associations. The publicity given these matters has reflected evil suspicion upon all trade associations which in most cases is undeserving and unfair.

A number of so-called trade associations sprang up during and after our entry into the war and some of these associations, a very small minority, officered by men either ignorant or wilfully disregarding federal and state statutes, have acquired notoriety which tends to cast discredit upon the whole field of trade association activity.

Trade associations are capable of doing a great amount of good and should be encouraged. Their activity in promoting better business practices, advancement of technical processes, simplification of production, standardization of quality, advocating proper legislation, all make for more efficient industry and business. The collection of information as to the production, stocks of raw and other material, percentage of industry in active operation, total orders on hand, all contribute to the stability and increased efficiency of an industry and give protection to both the small manufacturer and the consumer.

The associations in the clay industry are examples of the good that can be accomplished by proper association work. The advertising that has been done has stimulated the use of a better product for a more permanent and economical structure and the literature published has illustrated the proper use and economical employment of clay materials. Research work is now to begin which should lower the cost of production and make for a higher quality ware. The drive for lower freight rates is another activity that is to be commended.

All of this action is for the public welfare and results in lower costs and better conditions. It is true that the industry itself is gaining by such work and is by no means carrying on all this activity as philanthropy. However, *it is also true that the public benefits from this work.*

The Federal Administration apparently will recognize the need for trade associations if the statement that has been issued under the signature of Secretary of Commerce Hoover can be interpreted as the stand that the Government will take. This statement which was given out some weeks ago is as follows:

> The relation of trade associations and trade institutes to the anti-trust laws have been discussed at great length in the Administration. Of the many thousands of such organizations there are a small minority who have degenerated into ways that make for restraint of trade.
>
> All are agreed that the purposes and actions of the vast majority of national associations are a constructive contribution of public welfare. Their activity in promotion of better business practices, advancement of technical processes, simplification of production, standardization of quality, extension of foreign trade, commercial arbitration, etc., makes for more efficient industry and business. Many of them collect information as to the production, stocks of raw and other material, percentage of industry in active operation, and total orders in hand, all of which when available to the public contribute both to stability and the increasing efficiency of industry and to the protection both of the smaller manufacturer and the consumer. The Department of Commerce wishes to cooperate and assist with all of this sort of effort.
>
> A smaller number of such associations have been engaged in the collection of data on the prices for the exclusive use of their members. Some of these associations have been charged with delimiting areas of commodity distribution among their members and other misuse of information. Whether these latter practices constitute a violation of the national anti-trust laws must be determined by the courts, and this the Attorney General is vigorously proceeding to find out.
>
> All this raises anew the question of the authority of the Federal Trade Commission. The original conception of the commission was that it should, among other things, advise business men as to what constituted a violation of the restraint of trade laws, but these powers were struck out in the course of original legislation. It seems to me that the seven years' experience with the commission should now enable a reconsideration of its powers with a view to giving it a more constructive function, subject say to review by the Attorney General, by which it could remove the uncertainties from the mind of business men as to the line between the field of co-operation for promotion of production and trade in public interest and the field of practices against public interest. There is nothing so destructive of business as uncertainty, and business has inherently enough uncertainty to deal with, without this one.

Despite the above statement, petty politicians are taking advantage of the inflamed public to save their own heads. They are attacking the trade associations as a vicious tool for the restraint of trade. The hope of American business is, however, in the trade association. Let us repeat, consolidation, and an ever closer association of industrial groups, are imperative, and the Government should encourage such relationship.

* * *

FREIGHT SITUATION CALLS FOR ACTIVE MOVEMENT OF BUILDING MATERIALS

THE DECISION of the National Association of Railway Executives at Washington, refusing to grant any reduction in freight rates, altho this was urgently requested in many quarters, settles the question of freight rates for the present and immediate future. President Harding and the Interstate Commerce Commission had already been prevailed upon with some success but with no reduction in rates obtained or promised. This at once eliminates the general tendency to wait and hold off everything possible in anticipation of a freight rate decrease. Much of the present hesitancy in the construction industry, as well as in business in general, may be attributed to this cause.

With a definite refusal of any reductions,—with the possibility of a freight congestion, together with a change in the attitude of labor organizations toward strikes and wages, there should be ushered in at once an increased pace of activity in the building field.

There is scarcely any question but that a freight jam is looming on the horizon. Railroad conditions at the present moment, and the certain demands of coal and farm crops combined, make its appearance loom up with alarm. There are more than 325,000 freight cars out of service, shopped or side-tracked for necessary repair. These repairs are not being made. Lack of funds has caused the railroads to dismiss thousands of men employed in the repair shops to do this work. Even a reduction in wages will mean but slow action on this matter. Furthermore, there is practically no production of new cars.

Meanwhile, millions of tons of grain and other food products, comprising the 1921 crops, are even now nearing their harvest marketing hour. An almost nation wide refusal of the public to purchase coal in the usual quantities, during the spring months, promises freight difficulties. This situation is becoming recognized by the public and by dealers in building materials so that stocks are beginning to move. The wise dealer is stocking a substantial supply of all materials that he handles.

Labor organizations are beginning to realize that they have misplaced their confidence in unreliable leaders who have been looking out only for their own personal gain and not for the advantage of the union itself. Thus, many building mechanics are slowly beginning to realize that they have been misled and are now questioning the actual purpose of strikes and reluctance of working on a slightly reduced pay. Their changed attitude should relieve the labor situation and give the public greater security and faith in building.

The general prospect is for a sudden change in building outlook from a passive to an active status in most parts of the country. This portends building going ahead at a rate more rapid than had been anticipated.

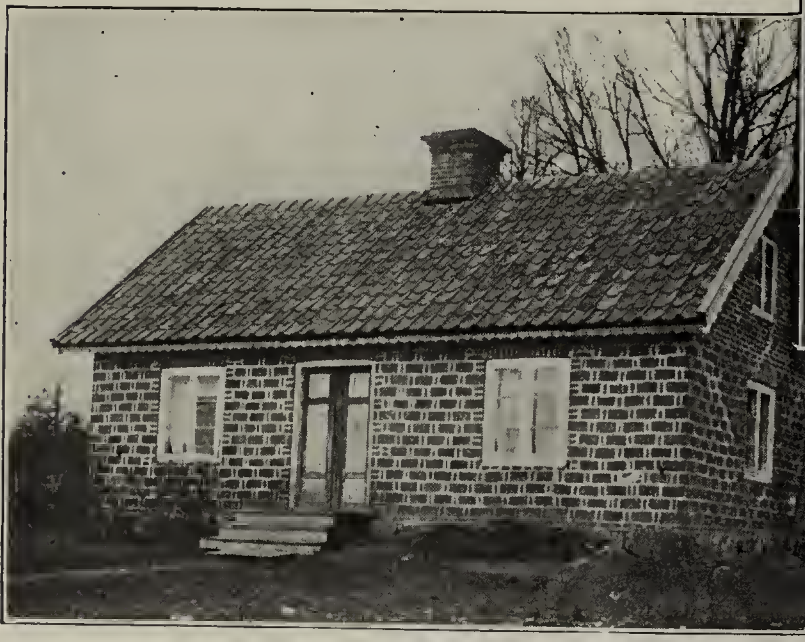
BUILT IDEAL WALL HOUSE *in* SWEDEN 50 YEARS AGO

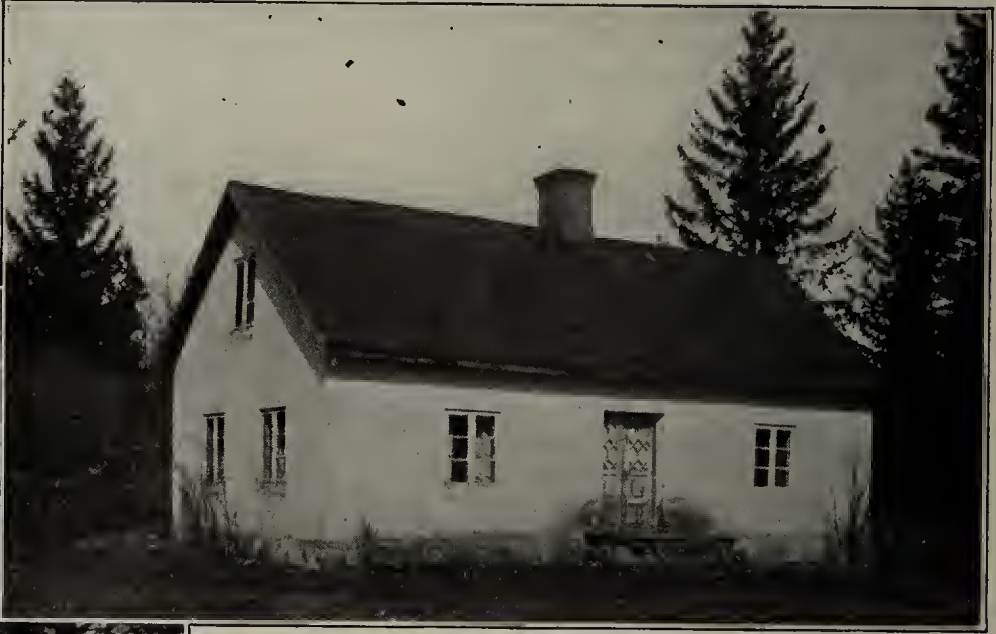
Remarkable Testimony Given as to Comfort and Durability of Brick Hollow Wall Homes That Have Successfully Withstood Long Test of Swedish Climate

THIS STORY was born from a letter—perhaps one of the most significant and interesting from the common brick manufacturers' standpoint that has ever been received by *Brick and Clay Record*. The letter which was written under date of May 26, was received in the past fortnight, and altho it puts to rout some of our conceptions of the Ideal Wall, it is perhaps one of the best testimonials that could be given to this type of wall construction.

The letter was received from Gust. Bern of Svedala, Sweden, director of the Swedish Brickmakers' School of Experimental Brickwork, and consulting Brick Works Engineer connected with the Abjorn Anderson Co. The epistle tells a message in such excellent manner that we prefer to reprint it intact and will not take the wind out of its sails by giving a hint as to its contents.

The Cottage Illustrated Below Measures 30x17 Feet and Is Built on the Same Order as the Ideal Wall. This Miller's Cottage, Which Was Built in Sweden Over Forty Years Ago, Stands as a Monument of the Permanency and Comfort of a Dwelling Built of the Ideal Wall.





The Above Cottage Is Over Fifty Years Old and Was Built with a Brick Hollow Wall. The Dwelling Stood Unplastered for Thirty Years. Had the Roofing Been of Clay Material Such as the Other Cottage, the Entire Dwelling Would Be In a Remarkable State of Preservation.

IDEAL WALL HOUSE FIFTY YEARS OLD

The letter which is addressed to *Brick and Clay Record*, reads as follows:

"In No. 3 of your valuable magazine you illustrate and describe a new brick hollow wall built of solid brick standing on their edges. To show you and your readers that the old proverb "There is nothing new under the Sun" still holds good, I enclose photos of two cottages built on my father's estate in Arhultemala, Sweden.

"The plastered house was constructed some fifty odd years ago and the pointed one (showing exactly the same bond of brick as the pretty bungalow-cottage illustrated in your February issue) was constructed some forty years ago. The older of these two houses was built by a cabinet maker using third class brick from my father's brick yard, close by. It stood unplastered and unpainted for more than thirty years without any perceptible damage from the weather and was, and still is, a very cozy and inhabitable lodging for the families that have been living therein.

"In about 1880 my father wanted to build a cottage for the miller on his estate and being a brickmaker naturally wanted to build with brick. However, all the people in the neighborhood were living in wooden houses and were somewhat prejudiced toward brick dwellings which they considered damp and cold. Having observed the good qualities of the cabinetmaker's house, my father decided to build his miller's cottage according to the same system, with hollow walls made of solid brick standing on their edges. However, he preferred pointed brick walls and selected well burned first quality hand made brick for the exterior walls. The headers were preferably with vitrified ends to prevent the dampness being led thru the wall. The inside of the walls are plastered in the usual way and covered with wall paper. The cottage is about 30x17 feet and the walls about 8 feet high.

WALLS BUILT IN FIVE DAYS BY TWO MEN

"The external walls were erected by two bricklayers in about five days. The size of the brick used measured about 11½x5½ x3 inches. The cottage has during the past forty years been inhabited by five different families of millers and none of them have made any complaints but have lived happily and comfortably and reared a good number of healthy children.

"Altho the winters in this part of the world are very long and severe (22 deg. F. below zero being by no means unusual), the houses are still as sound as the year they were built and will stand for hundreds of years more with very little repairs. This shows that this system of building is splendid and to be relied upon.

"I do not regard that by this letter I have taken the 'newness' out of the Los Angeles system of hollow brick wall building, as I have given it what is still better, a testimonial of fifty years life and good service in a climate much more severe than that experienced in the United States of America."

⁂

Railroads Refuse to Reduce Freight Rates

In reply to requests received from practically every part of the country, the Central Freight Association recently sent notice to a number of shippers by its chairman, E. Morris, and on behalf of the railroads of the entire country, that in consideration of present conditions no general reduction in freight rates is being considered.

The committee of railroad traffic managers, of which Mr. Morris is chairman, met in Washington recently, in conference with associations allied to construction and road building especially, who were seeking to reduce freight rates.

The building tile and brick interests especially have urged a reduction by the railroads by the elimination of the increase of forty cents per ton granted by the Interstate Commerce Commission in August, 1920. In his announcement Mr. Morris points out that the tonnage directly affected by the requests for lower rates is approximately twenty-five per cent. of the total tonnage of the railroads of the country.

⁂

Indications Point to Higher Coal Prices

Lethargy is the word probably best describing the situation in the coal industry today. Thruout the country very little activity is displayed in the coal markets and this situation is attributed to a large extent to the general business depression prevailing in the country. Many buyers who would otherwise enter the bituminous market have been and in many cases still are holding off in the hope of seeing freight rates reduced and a corresponding reduction in coal prices.

A statement from Secretary of Commerce Hoover recently to the effect that there has been, in his opinion, no reason for the supposition that a general reduction in freight rates would be effected shortly, will probably cause a resumption of buying to a certain extent.

In spite of the general dullness prevailing in the bituminous market prices for spot coal are not being reduced and many operators are not soliciting business at the present prices. Operators have positively stated that no reductions will be made but that there is every indication of an increase in the prices being made with the resumption of business.

⁂

APPROVE PLAN *for* ACTIVE RESEARCH

WHAT WAS termed by a prominent ceramist "one of the most important meetings ever held by manufacturers of clay products" took place on Thursday, June 16, at the Hotel LaSalle, Chicago. The occasion was the executive committee meeting of the joint research committee of four national clay associations. This committee is composed of F .W. Butterworth, general manager of the Western Brick Co., Danville, Ill., representing the American Face Brick Association; F. B. Lambert, general superintendent of the Illinois Brick Co., Chicago, representing the Common Brick Manufacturers Association of America; O. W. Renkart, general manager of the Metropolitan Paving Brick Co., Canton, Ohio, representing the National Paving Brick Manufacturers Association, and J. J. Amos, general manager of the Humboldt (Kas.) Manufacturing Co., representing the Hollow Building Tile Association.

At the meeting the selection of Mr. Butterworth was made as chairman of the research committee, and M. B. Greenough, will act as secretary-treasurer of the joint committee in accordance with his appointment at the meeting held in Chicago on February 15.

$10,000 AVAILABLE FOR RESEARCH

At the initial meeting of the joint committee, which was held in Chicago in February, the possibility of cooperative effort in research work was discussed as well as the financial requirements to accomplish this end. At the adjournment of the February 15 meeting it was tentatively agreed that each association should obtain an authorization of $2,500 to pool into a common fund for technical investigation of manufacturing problems. Since that time, all four associations have appropriated the sum decided upon.

In addition to the matter of financing, it was understood at the February meeting that the group of scientific men with whom the joint research committee was expected to work, would be a technical committee composed of A. V. Bleininger, ceramic chemist for the Homer Laughlin China Co., Newell, W. Va.; P. H. Bates, United States Bureau of Standards, Washington, D. C., R. B. Moore, United States Bureau of Mines, Washington, D. C., E. W. Washburn, head of the Department of Ceramic Engineering, University of Illinois, Urbana, and R. C. Purdy, Dover (Ohio) Manufacturing Co.

This technical committee held a full day meeting on Wednesday, June 15, at which time there was definitely agreed upon a program of work, together with assignments as to what laboratories should handle each phase.

At the meeting on the 16th, A. V. Bleininger, read the report of the technical committee, and the program outlined by him was endorsed after discussion by the executive committee and active work was agreed upon to begin at once.

In addition to those named above, with the exception of J. J. Amos, there were present at the above meeting, E. R. Sturtevant, secretary, Hollow Building Tile Association, who represented that organization, and R. D. T. Hollowell, secretary of the American Face Brick Association.

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C. B. M. A. Adds New Members

More new members, from the Pittsburgh district, have been enrolled in the Common Brick Manufacturers' Association of America, following a series of special meetings conducted in that territory by Ralph P. Stoddard, secretary-manager of the association. Among those admitted are the Wynn and Starr Co., Trafford, Pa.; the Perry Manufacturing Co., Uniontown, Pa.; Monongahela (Pa.) Clay Manufacturing Co.

PAYMENT *of* BONUS *to* PIPE PRESS CREWS

Obtaining Biggest Output in Most Economical Manner—Bonus System Outlined Is Profitable for Employer and Employe

By W. F. Godejohn

FOR THE PAST several years the paramount problem in the minds of most manufacturers was that of obtaining a large output. In this struggle to produce enough material to supply the great demand, economic production was somewhat lost sight of. Wages were advanced in leaps and bounds and because of the labor shortage, and the apparent ease with which men could obtain employment elsewhere, workmen in nearly all lines of industry began to "slack up." Today, the problem is no longer limited to that of producing large outputs alone, but is centered upon producing a high grade material, as cheaply as possible, in order to meet competition.

In order to get costs back to normal it is necessary to do something in addition to cutting wages, since wages can be reduced only a limited amount,—almost directly in proportion to the drop in the cost of living. If each workman can be induced, thru some incentive, to produce more work per day, costs will automatically drop. The payment of workmen, in direct proportion to their accomplishments, by means of a bonus plan of payment, has, in many cases, solved this problem.

STANDARDS DETERMINED THRU TIME STUDIES

To apply such a plan of payment to pipe press crews, it is necessary to:

I—Establish a Standard number of each size of pipe to be made per hour.

II—Establish a Standard number of men to man the press producing this Standard number of pipe.

These standards are arrived at by means of time-studies. Such studies should be made by a man experienced in the setting of rates, since the success of the plan is based upon the standards being properly and fairly set. They should be fair to both the company and to the men and should not be changed unless conditions are changed, inasmuch as the men will not extend themselves if, by bitter experience, they know that if their earnings begin to climb upward their rates will be cut.

MUST STANDARDIZE EQUIPMENT AND MACHINES

Before starting the actual work of standardizing the crews, it is essential that machines and equipment, as well as conditions, be standardized. For example, it may be found that a larger intake steam line will permit the press to be operated with greater speed, or it may be that an instantaneous clay feed, circular offbearing tables for small pipe, or any other changes can be made to result in greater production per hour. It is ofttimes advantageous, in standardization of equipment and machinery of this kind, to analyze production records and determine what the principal causes for lost output have been, and then set about to correct these troubles. Once the equipment, machinery and conditions are standardized, the press can be studied to determine the standard number of each size of pipe to be made.

STUDY EACH SIZE SEPARATELY

In making such a study, each size of pipe must be studied

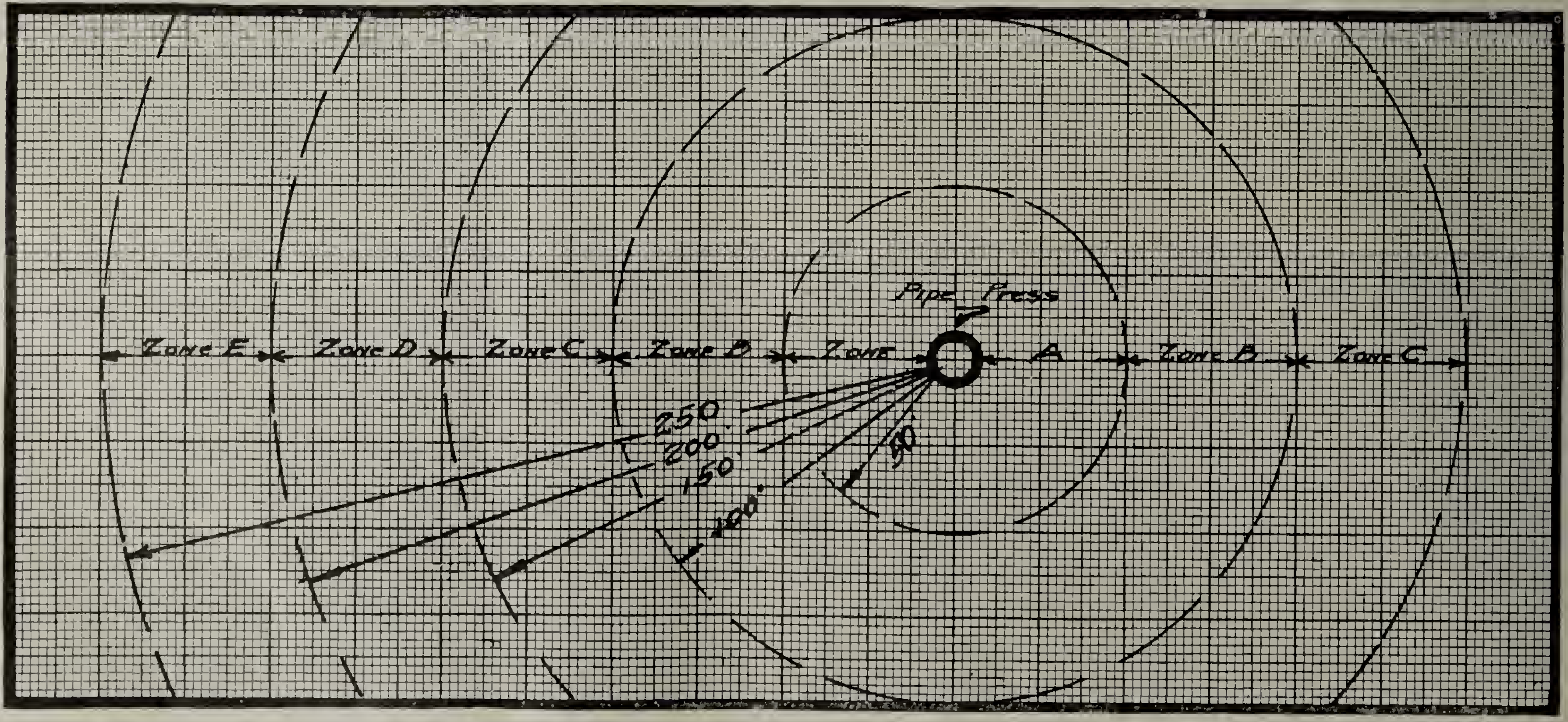


Chart 1. Showing How Floor Space May Be Divided Into Zones Enabling Study of Time Required to Read Various Distances.

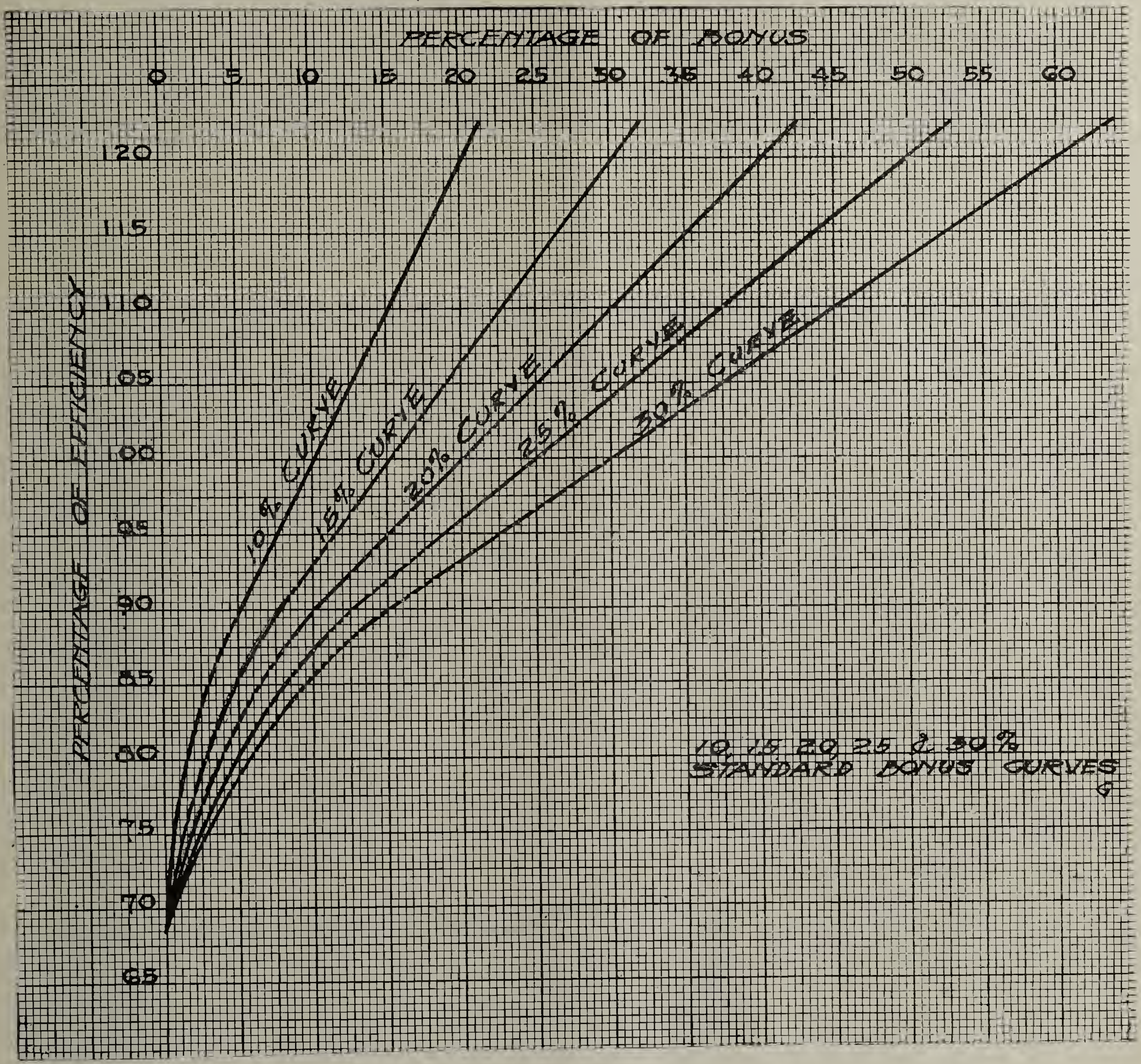


Chart 2. Method of Arriving at the Press Crew Efficiency and Basis Upon Which to Pay Bonus.

separately, and, if possible, each operation in the process should be studied; that is, the job should be broken up into units as small as possible. For instance, in studying the process of making 18-inch sewer pipe, we might start with the locking of the former to the die and time the operation of pressing the head, then the time for unlocking the former, time for placing the board, for running out the pipe, for cutting, for offbearing, for raising the former to the die, for locking the former to the die, etc., repeating until a sufficient number of studies are available from which to arrive at a standard. By studying the operations in this manner it will be found just where speeding up can take place.

After the studies have been taken, the next step is to group the times for the various operations in order to arrive at a total time per pipe. A certain percentage should be added to this total to allow for small delays, etc. This total then divided into the minutes in an hour will give the number of pipe per hour.

The tabulation in table No. 1 shows the result of such a time-study.

To arrive at the efficiency at which the press is operating, divide the actual number of pieces of pipe made, for say 6-inch pipe, by the standard number of pipe. Example:

Number of 6-inch pipe made equals 675.

Standard number of 6-inch pipe per hour equals 702.

Efficiency equals 675 divided by 702 or 96 per cent.

TABLE No. 1

Standard Number of Pipe per Hour

Size	No. per Hour	No. per 10-Hour Day	Tonnage per Day
4″	990*	9900	95
6″	702*	7020	117
8″	270	2700	77
10″	234	2340	90
12″	207	2070	117
15″	162	1620	130
18″	121	1210	146
21″	90	900	152
24″	72	720	150

* Multiple dies.

Note: These figures are hypothetical and do not represent actual studies.

After determining the Standard number of pipe to be made per hour, the next point to be covered is that of determining the number of men to be used to make the pipe. This should include all men from the pans to the pipe trimmers, both inclusive. It is quite a simple matter to determine the number of men required, until we go about arriving at the standard number of truckers to be used. Knowing the number of pipe coming from the press per hour, we must determine the number of trips to be made by the men taking the pipe from the press to the drying floors, with a given number of pipe on each truck. By dividing the floor space into units or zones, somewhat as shown by Chart 1 the time required to make a trip to any zone can be determined.

NUMBER OF MEN REQUIRED TO MAKE PIPE*

The following tabulation shows the result of such a study, after having studied and recorded the time required to load; truck to floor, time required to unload and the time for returning to the press to be loaded again:

TABLE No. 2

	Distance from Press	Time to Load	Time to Truck	Time to Unload	Time to Return	Total Time
Zone A	.... 50 feet	.5 min.	.25 m.	.4 m.	.25 m.	1.4 min.
Zone B	..........100 feet	.5 min.	.50 m.	.4 m.	.50 m.	1.9 min.
Zone C	..........150 feet	.5 min.	.75 m.	.4 m.	.75 m.	2.4 min.
Zone D	..........200 feet	.5 min.	1.00 m.	.4 m.	1.00 m.	2.9 min.
Zone E	..........250 feet	.5 min.	1.25 m.	.4 m.	1.25 m.	3.4 min.

* .5 minutes used as standard time for trucking 100 feet.

Once the time required per trip is determined, adding to the total time a certain percentage for fatigue allowance, by dividing the time taken for the trip into sixty minutes, the number of men required to truck to each section of the floor can be determined.

Table No. 3 shows, as an example, the total press crew for making, say 8-inch sewer pipe, 2 ft. long, trucked to zone "C."

To arrive at the efficiency of man supply, divide the standard number of men by the actual number of men: Example,

Actual number of men used equals 15.

Standard number of men equals 13.

Efficiency equals 13 divided by 15 or 86.6 per cent.

To arrive at the press crew efficiency, the efficiency at which the press operated should be averaged with the efficiency of man supply, as shown in Chart 2. For example:

Efficiency at which press operated equals 96 per cent.

Efficiency of labor supply equals 86.6 per cent.

Average efficiency of Press Crew equals 91.3 per cent.

In choosing a curve upon which the bonus is to be paid, care must be exercised in order to insure both the company and the men making greater money. It might be, that the increase in efficiency warrants the payment of a large bonus to the men, or, on the other hand, if the efficiency is increased only a slight amount, perhaps a small bonus (10 per cent.) would be justified.

HOW BONUS CURVE WORKS

We will take for example the 20 per cent. bonus curve. Applying the 91.3 per cent. efficiency, shown before, the amount of bonus earned would be 11.3 per cent. This would be paid the men in addition to their day wage, provided they worked the full day making pipe. If not, they would be paid 11.3 per cent. in addition to the wage, for the length of time worked on the pipe press only.

TABLE No. 3

1	Dry pan operator (pan fed by conveyor)
1	Screen house man (cares for screens, bins, etc.)
1	Wet pan operator (tempers clay)
1	Clay feeder (operates feeder to press)
1	Pressman
1	Leverman
2	Offbearers, or turners
3	Truckers
2	Pipe trimmers
13	Men—Total

After the standards have been set, a great deal of work remains to be done in getting the men to the point where they are interested enough to try to earn the bonus. They must be shown ways and means of increasing their efficiency, which features will be revealed in the time-study. Once they are started and realize that the greater their efforts, the greater the size of their pay envelopes, it will not be necessary to urge them to greater effort.

TABLE No. 4

Chart Showing Record Runs of More Than Three Hours' Duration

Size	Standard per Hour	Record Runs
4″	990	700, 721, 752, 824, 900, 1027
6″	702	498, 627, 700
8″	270	260, 265, 266, 270
10″	234	210, 211, 215, 220, 221
12″	207	212
15″	162	140, 152, 164
18″	121	100, 110, 112, 113, 114
21″	90	87, 89, 91
24″	72	52, 59, 61, 70

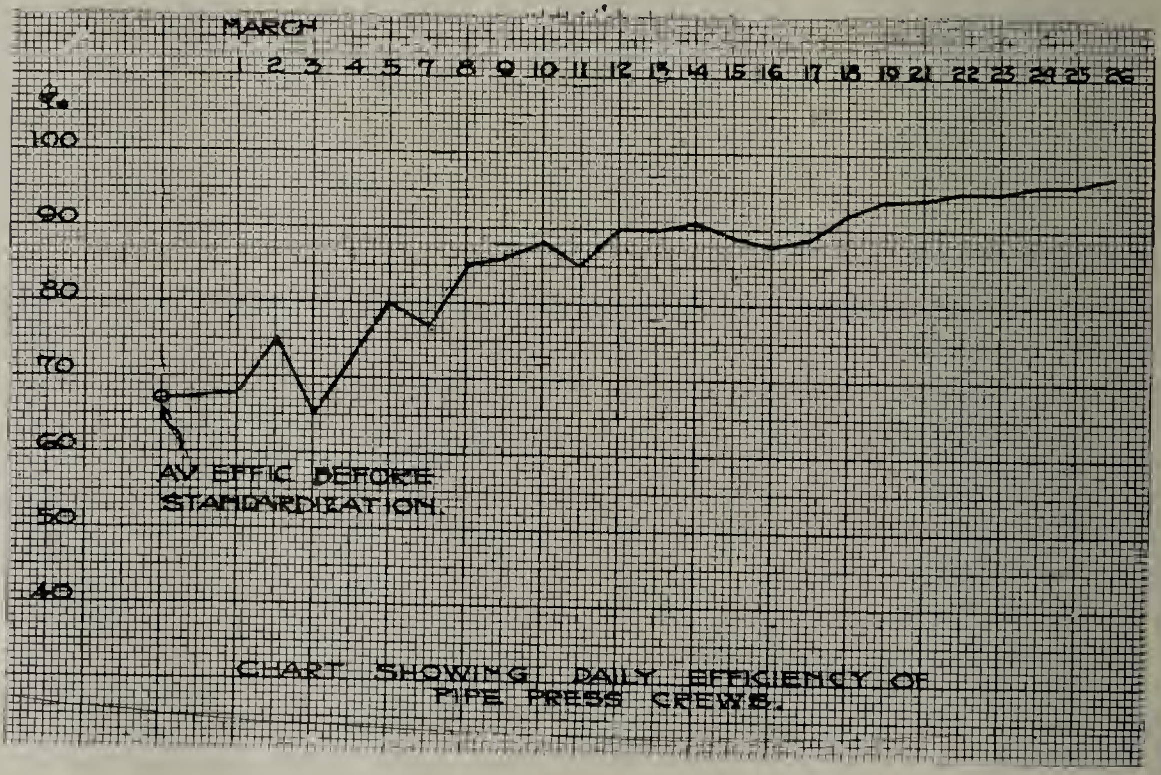


Chart 3. Type of Chart Posted to Show Men Their Efficiency on Previous Day.

In order that the men may see, graphically, each day just how their efficiency for previous days is running, a chart similar to Chart 3 should be posted at the press.

It has also been found advisable, at times, in starting the men on bonus plan, to post a chart showing the record runs for the different sizes of pipe, as shown in table No. 4.

Whether or not such a scheme as that just described could be applied to your plant, with savings to your company and with greater earnings for your men, cannot be predicted; but the efficiency of men on this kind of work,—before being placed on bonus—usually average around 65-70 per cent. efficient and are usually operating,—if standards are properly set,—between 95-100 per cent. efficient after being placed on bonus. If this can be done, you can readily see that the company gains by increasing its productivity per man from 67 per cent. to 100 per cent., for which it pays the men from 10 per cent. to 30 per cent. in addition to their daily wage.

* * *

BUILDERS *in* EAST WAITING *for* LOWER WAGES—LABOR HOLDS KEY *to* SITUATION

OPINION seems to be crystallizing in this market that almost the sole remaining retardant to an active building market is the war-time wage rates still prevailing in the New York building trades, says the Dow Service daily building report of June 18, 1921.

With building material showing a drop of approximately twenty-five per cent. in price since the high point of 1920, representing a retracement of forty per cent. of the price-rise between 1915 and 1920, covering the basic building materials that enter into the construction of the average building project, building investors are beginning to insist that at least a comparative cut be made in wages before they go ahead with construction work they have in contemplation.

LABOR WAGES HOLDING BACK BUILDING

Certain architects specializing in apartments, banks, commercial construction, dwellings, factory erection, schools, theaters and wharves have been asked what in their opinion is the cause of the continued withholding of so many of the great number of building projects that are projected, but which, for the most part, are still being held in abeyance. Their reply is almost unanimously: "Labor Wage Scales."

"Cost-plus" building construction, now and in recent years increasingly prevalent, does not have a tendency to prompt contractors and builders to take an aggressive stand in demanding wage cuts.

Doubtless this is because they believe that if the present wage agreement, which does not expire until the end of the year, is not previously reopened by their request and should the skilled building crafts again become in excessive demand at some future time, the excuse will be absent for abrogating or amending future contracts or agreements. Employers say that this policy will remove the element of retaliation in all future wage controversies and that in the long run there will result a much greater assurance of industrial peace in the building trades.

MANY LABOR LEADERS EXPECT CUTS

Labor leaders, of course, are not expected to take the initiative in any wage reduction program, but the individual members of the labor organizations have not been blind to what has been transpiring in many other cities thruout the country and have been impressed with the quick resumption of building activity that has resulted from voluntary or involuntary wage cutting. Skilled building craftsmen are reported to have expressed themselves as having long expected a wage cut to become effective in New York and have been surprised that the old scales have been kept in force so long.

Some of these crafstmen have been out of work for some time and there is known to be a movement under way in some of the memberships to exercise the prerogatives provided for in the existing wage agreement between the employers and the employees whereby negotiation may be opened on the subject of wages readjustment upon formal application "from the floor" on either side. The electrical workers have already started a movement toward this end.

WILL BE FORCED TO ACCEPT LOWER WAGES

When a prospective building investor makes comparisons between material cost at peak and at the present time he is more impressed with the reductions that have taken place in items entering into building erection than with the rigid position that New York installation labor has recently maintained. The employe in the building trade knows, if he knows anything at all about the trend of affairs in the building market, that if building activity develops no faster than it is now moving, (and the building trades have been increasingly idle, until a month ago, since last autumn) some time in the early part of 1922 he will be forced to break union rules and regulations and take a job at whatever wage he can get. It is upon this point that the prospective building investor is relying when he continues to say: "I'll wait."

Even if the building artisan should be forced to bid against his fellow union men for jobs, the finishing trades would not get to work and buildings that might go ahead under such counter-bidding tactics, until the latter part of 1922, if then. It is this sort of an outlook that is giving the individual New York building craftsman cause for thought. The volume of building that is now going ahead is not able to absorb the idle men seeking work.

TODAY'S PRICES WITH THOSE OF 1913

This same phase is grasped also by the prospective building investor when he figures the labor cost of today against that of a few years ago. In a typical New York loft building the cost today compares with that of 1913 as follows:

	1913	June 7, 1921.
Material	$16,417.18	$20,512.69
Labor	4,001.23	9,164.82
	$20,418.41	$29,677.51

Increase:
Difference for material .... 24.9 per cent.
Difference for labor .... 129. per cent.

While there is an unquestioned change in market activity that has been developing steadily for almost a month, it is for the most part of a type that is either "cost-plus" or highly speculative; not of a sort to promise anything like even normal employment for the idle workmen of the building trades for some time to come. The architects, engineers and building construction heads of large corporations frankly say that present New York wage scales are too burdensome to warrant a policy of full building construction speed ahead and their clients are not inclined to try it.

Construction Represents 26% of U. S. Wealth

In a special report issued June 7 by the Committee on Statistics and Standards of the United States Chamber of Commerce, of which A. W. Douglas of St. Louis is chairman, the total national wealth of the United States is estimated at $288,464,000,000, of which $77,321,000,000, or 26.8 per cent., is represented by the construction industry.

The report shows that in 1914 one quarter of the 276,000 manufacturing concerns employing 10,658,000 workers with an annual payroll of $5,368,294,000 and an annual output worth $25,000,000,000, was devoted to construction products.

In 1920, ninety per cent. of all iron ore, copper and zinc, and ninety-five per cent. of all lead mined was consumed by construction. Twenty per cent. of the bituminous coal and five per cent. of the anthracite coal mined was used by manufacturers of construction materials, by the railroads in transporting these products, and by traction lines and public service corporations in service to construction workers. A rough estimate of the value of these minerals is $4,400,000,000 engaging more than 1,000,000 workers at an annual wage of approximately $1,000,000,000.

Twenty-five per cent. of the freight transported by the railroads is construction materials.

11,000,000 persons, either as workers or as members of workers' families are estimated to derive their living from Construction, either directly or thru manufacturing and mining products used in the Construction Industry. The support given to agriculture and to trade by the annual expenditures of this great number of persons is estimated at more than $5,000,000,000 for rent, fuel, food, clothing, furnishings, etc.

New capital issues during 1920 so far as reported, totaled $4,545,000,000, consisting of state, municipal, railroad and industrial securities, of which it is estimated fifty per cent. were issued for Construction in one form or another. A considerable portion of the new capitalization went to pay off maturing obligations, which were reflected, however, in past construction to a large extent.

Even this estimate does not cover the whole field. It is short a huge amount of expenditure for new construction because a great amount of expenditure for additions to plant, structures, etc., is paid out of earnings at hand it appears that twenty-four per cent. of the year's capital accumulations, and probably fifty per cent. of the national savings annually go to Construction.

Based on this analysis, the report concludes that the Construction Industry is a unique barometer of the state of business in all industry and as such deserves a separate classification among the basic industries of the Nation on a par with agriculture, mining, manufacturing, transportation and communication, commerce and finance.

* * *

Common Brick to Have Standard Names

Plans for the standardization of names for common brick, by which the various grades will be known in a uniform manner, which were started some time back by the Common Brick Manufacturers Association of America, are nearing completion. In the Cleveland, Ohio, headquarters of the association two samples of the different grades of brick made by each of the 400 members of the organization, are being received and classified. The samples are coming in from all parts of the country.

The plan for standardization of names for the brick will not alter in any way the manufacture of product, explains Ralph P. Stoddard, secretary-manager. It is designed primarily to facilitate the sale of common brick in all localities. Architects, engineers and contractors, whose operations may be either local or national, are sometimes uncertain as to just what kind of common brick the manufacturer refers to when he says his product is run of kiln, soft mud, hard, salmon or whatever terms he uses. When applied to the brick these names mean the same to the manufacturers, but not always to the user of the brick.

Hence this plan is to standardize the brick according to their color, quality and the like. The data accompanying the classification will also include source of supply, type and other points of value for the contractor or architect. At the national headquarters they will be arranged geographically.

"The standardization of names for brick will be similar to the principle used in the coal, steel, cement and other industries," says Mr. Stoddard. "The different kinds of coal or steel are all known by the same names all over the country. The same should apply to brick. This standardization of name will, however, not affect the manufacture or product in any way. They will continue to be the same."

* * *

Coal Prices Show Little Change

Continued stagnation of industrial business is having little effect on the coal markets and prices hold steady with only here and there slight fluctuations are reported. Many of the larger producers are not anxious for business at present prices either spot coal or contract. Prices for the various fields given below are taken from the "Black Diamond."

Southern Illinois, including Saline, Franklin and Williamson counties, domestic sizes, $3.80 to $4.05; mine run, $3 to $3.25; screenings, $1.25 to $2.85; steam sizes on contract, $2.60 to $3.65.

Peoria district, prepared sizes, $3 to $3.25; mine run, $2.75;

Indiana fields, prepared sizes, $3 to $4; mine run, $2.25; screenings, $1.25 to $2.

Central Illinois, prepared sizes, $3.25 to $3.50; mine run, $2.50 to $2.75; screenings, $1.35 to $3.25.

Spring Valley, six-inch chunks, $4.50 to $4.75; on contract, $4.25; wash screenings, on contract, $3.85.

Prices in the Columbus, Ohio, market are well maintained in the face of practically no demand: Hocking lump is $3 to $3.25; Hocking mine run, $2 to $3; Hocking nut, pea and slack, $1.25 to $1.50, f. o. b. mines. One small lot of mine run sold for $1.75, but that was an exception.

Prices in western Kentucky are holding steady, prepared showing an average of $2.70, with a range of $2.35 to $3; mine run, $2.25, range, $1.75 to $2.50; screenings, $1.65, range, $1.25 to $2.

* * *

Concentrated Efforts to Revive Construction

Following the National Construction Conference held in Chicago, March 2 and 3, 1921, the National Federation of Construction Industries, under the guidance of the Central Direction Committee, has been actively at work with the members of the cabinet, governors of the states, mayors of the principal cities, construction associations and chambers of commerce in every section of the United States, in order to bring about national and local action, with the object of getting construction activity under way on a sound economic basis in which the public may be justified in having confidence.

Efforts in this direction have met with unprecedented success, with the result that chambers of commerce, commercial clubs, boards of trade and other commercial bodies in a great number of cities have expressed an interest in this stabilization work. In many of these cities local conferences between all branches of the construction industry, including labor, have been held in order to bring about a downward readjustment of construction costs in each locality, and then to drive for the renewal of construction work. All of these local conferences have been open to the public. In cities where no conferences have been held the general recommendations of the National Construction Conference for caring for local activities have been followed.

CHICAGO INVITES AMERICA *to* WORLD'S WONDER HOME SHOW

"Building Supply News" Tells of The Biggest and Most Beautiful Permanent Home Exposition Ever Projected—$100,000 Is Being Spent in Transforming 50,000 Square Feet of Space Into a Landscaped Fairyland—Open in July

A Ten-Pointed Star of "Home Exposition" Achievement

HENRY A. GUTHRIE

A PERMANENT "HOME" EXPOSITION, its main features occupying an entire floor in one of the city's largest buildings, half an entire square, in the very heart of Chicago's retail business district—

Comprising more than a mile of real, tree-bordered, beautiful landscape-gardened thorofares—with vistas of arbor vitæ, shrubs, perennials and real flower beds.

With finished and complete full-sized model bungalows, representing brick, cement, frame, hollow tile and stucco types and materials—not only bungalows, but the entire home-site setting and furnishings inside and out, with playgrounds, growing grass, fountains, birds, garages—

With every kind of home exterior finish and interior equipment, not only on display, but shown in direct relation to each other—furniture, rugs, wall paint, lighting fixtures, window shades, roofing, plumbing, furnaces, building materials—

With every kind of Home Saving, Building and Furnishing information and counsel available, without cost or obligation to any visitor—reliable contractor, architect, banking and building loan representatives on the job!—

With rest rooms, nursery for the children, restaurant and young people's cafeteria, dance parlors, with a special assembly room for lectures and entertainment.

WORLD'S GREATEST HOME MAKERS' AND BUILDERS' LIBRARY

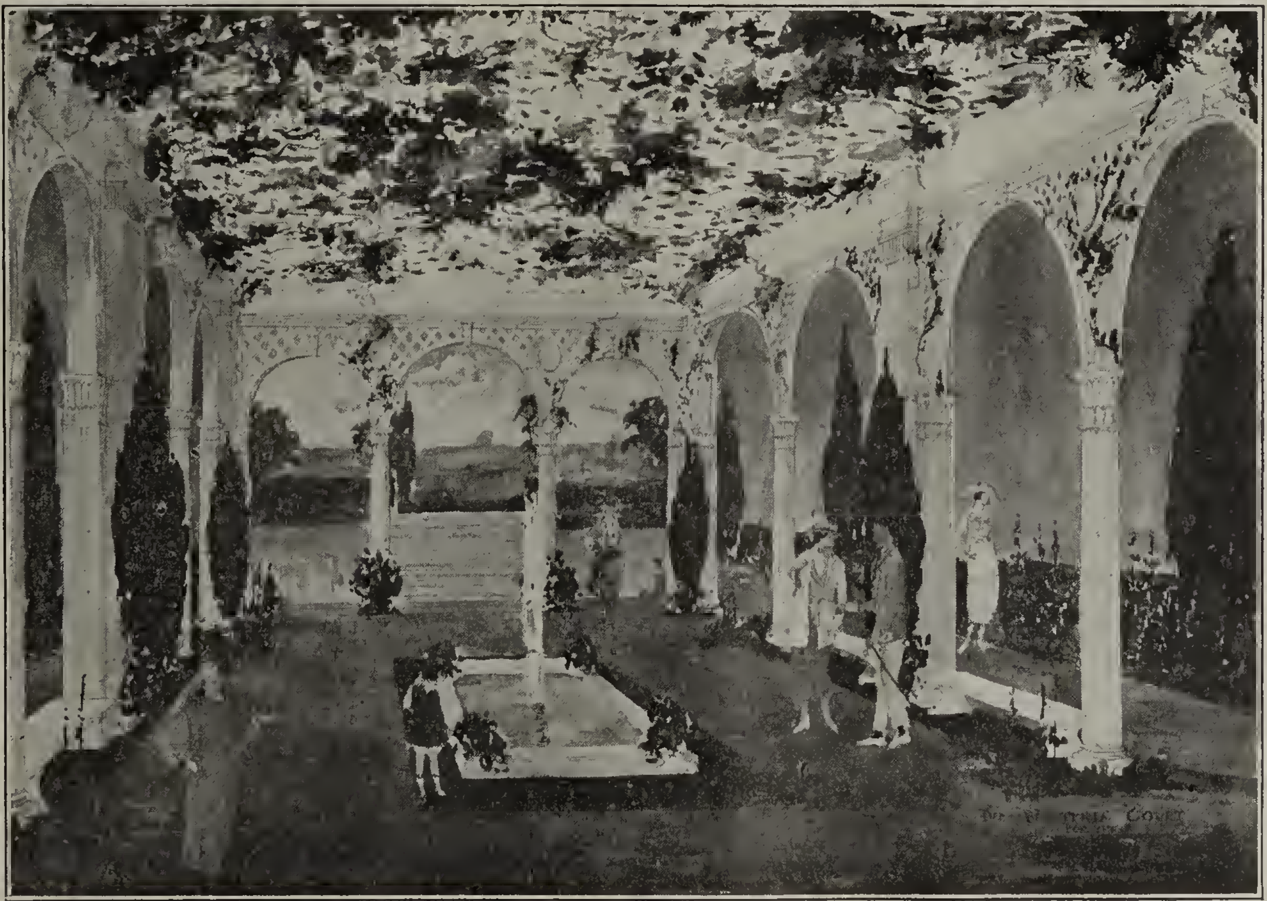
With the largest and most distinctive reference library of all recent and standard literature in book or pamphlet form on the question of home building and home development ever brought together—an idea never before worked out to an actual and practically reality.

With every one of the scores of individual exhibits built up to harmonize mutually with all the rest, under the supervision of the firm that planned the San Francisco Exposition—

With a waiting list for exhibit space already growing to such proportions that only the very best concerns in each line will have a chance to participate.

And with the entire exhibition backed by the vision and unlimited means of one of Chicago's foremost capitalists—

This is the extraordinary and unique dream that is to be realized as a permanent fact, and opened early in July, 1921.



Graphic Advance Glimpse of Wistaria Court—The Impressive Beautiful Centerpiece of Chicago's "The Home Complete" Permanent Exposition, Which Will Be opened to the Public in July. The Reproduction Here Is Made Direct From the Original Architect's Water Color Perspective, Which Is Being Faithfully Reproduced on the Exposition Floor. Wistaria Court Leads Immediately from the Executive Offices and the Registration Desk of the Appalachian Marble, With Fountain and Flowing Pool in the Center, Pillars of Natural Wood, Surrounded by Growing Trees and Real Flower Beds, the Floor of Red and Black Checked Tile, With Stairway and Outdoor Effect In Background. Painted by T. J. Bannigan, Scenic Artist for the Chicago Opera Co. The Ceiling Is Entirely Covered With Artificial Wistaria Vines, Thru Which Indirect Lighting Radiates Novel Sunlight Effects. From This Court Open Entrances in All Directions to the Various Exhibits.

Snapshots of Actual Landscape Gardening Artistry Now Proceeding, in the Creating of Chicago's New Permanent Home Exposition. In the Upper Left Corner a Young Forest of Real Arbor Vitae Is Being "Planted." In the Center and Upper Right Hand Corner Are Glimpses of Two of the Many Tree-Bush- and Flower-Bordered Thorofares Along Which the Exhibits Will Be Placed. In the Lower Left Hand Corner is a Snapshot of the Actual Landscaping Work in Progress Under the Supervision of Nationally Famous Experts. The Lower Left Hand Corner Shows First Stages in the Installation of an Exhibit of a Popular Article of Home Equipment.

WHAT WE HAVE SEEN IN THE MAKING

This is one of the few events in the history of American industry that requires more than mere words or advertisement to accurately or fairly describe.

We have seen it with our own eyes in the making.

We have talked with the aggressive young executive manager, Henry A. Guthrie, who is pep, vision and practical good sense incarnate.

We have examined the plans of the nationally known artist and architect, Ernest G. Froderstrom, who is personally directing the unique landscape decorating of the entire 52,000 square feet of exposition space. (Architect Froderstrom is well known for many remarkable projects of this sort, among which one of the most outstanding in beauty and fame is that of the entire landscape gardening at the famous French Lick Springs hotel in southern Indiana.)

We have frankly discussed the sales and publicity ideas being worked out for the benefit of every one of the fortunate exhibitors by Daniel L. Martin, known everywhere as the former exploitation manager of the master genius of the movies, David Wark Griffith.

We have talked with the exhibitors and have examined the entire project from every angle, and the more one studies it the more he is impressed with the tremendous timeliness of the whole proposition.

Making a Remarkable Dream Come True

We were interested in how the idea came to being. To our surprise and amazement, we found that thru enthusiasm engendered by the personal visit to the Chicago Home Exposition at the Coliseum last spring, Joseph Leiter became imbued with the idea of a permanent exhibition that would be self-supporting and yet lead the way in making Chicago the greatest city of homes in the world.

Impressed with the threat of national disaster implied in the long postponed construction of three million individual homes, for lack of which the entire land was suffering socially and morally as well, Mr. Leiter, who, among other large real estate holdings, owns the great building formerly occupied by the famous Siegel-Cooper department store, decided to personally create such a permanent exhibition literally under his own roof, and this is the result.

As a first step, he secured the services and made a long-term contract with Mr. Guthrie, Chicago manager of the Coliseum Exposition.

The second step was the purchase outright of the good-will, name and fixtures of the Chicago Building Material Exhibit, for the past eight years occupying the second floor of the Insurance Exchange Bldg., 175 W. Jackson Blvd.

The third, was to complete a staff of men competent to technically plan and develop an exhibition that should go beyond the out-of-date notion of mere stalls, brass rails and ugly-looking isolated and entirely unrelated order-desk—reservations that repelled, instead of attracted the average prospective home builder.

CONVINCING EVEN THE OLD FOGIES

Once the die was cast and the project under way, the excitement began.

The old fogies, the makers and producers of this or that sort of household equipment or home building material who had failed to realize the meaning of "visible salesmanship," 1921 model, who began by pooh-poohing the notions of the permanent exposition promoters, scoffed at the landscape gardening, and laughed, incredulous, as the entire plan was unfolded, quickly began to whistle a different tune as soon as they saw how the idea was catching on.

The old exhibitors soon found themselves in competition with new ones for choice locations, and from that moment the success of the plan was as definitely assured as anything could be in American business progress. Now the waiting line of those who desire reservations are "forming at the right," but the canny exposition makers, without strings or obligations, are enthusiastically welcoming representative leaders in every phase of the construction and home equipment line.

And so rapidly has the plan developed that the definite date of its opening has been set for July.

The Five Big Purposes

Five big purposes are being kept in mind as the manifold aim and inspiration of this exhibition:

(1) It will be called "The Home Complete" Exposition, with full intention of measuring up to its name in every particular.

(2) *Its slogans will be "Look Before You Build" and "Buy Your Home in State Street,"* which will mean that every prospective home builder within the borders of the entire district of Chicago and its outermost suburbs will be able to find here, in almost the geographical downtown center, the necessary means and counsel for planning, purchasing, furnishing and paying for a new home of his own selection, with the best experts on every feature of this subject at his free and instantaneous command.

(3) *It recognizes the fact that woman's taste and choice is now and will be even more emphatically the deciding factor in every satisfactory new home,* and because of that fact, every item of the entire exposition will be planned so as to make the most direct and effective appeal to her ideas, dreams and practical domestic good sense. It is expected that the exposition will become a family rendezvous, with restaurant, rest room, nursery and recreation conveniences all at hand, in addition to the beauty and attractiveness of the exhibition settings and background.

(4) *It will be one of the great educative factors in the civic life of Chicago.* Not only from its concessions and individual exhibits, but as well from the remarkable reference library and reading room, covering the entire world of home building and construction, there will radiate an influence and inspiration that will become an ever-increasing power for public welfare and social improvement. In this respect it should and will undoubtedly prove the parent of similar expositions, even if on a lesser scale, in progressive towns and cities thruout the United States.

(5) *Last, but not least, "The Home Complete" Exhibition will prove* once and for all the fact *that the selling of building materials and house fixtures and furnishings is* not merely barter in a thousand cleverly manufactured articles, *individual products of the fertile American brains, but, on the other hand, that the supply industry, whether it has to do with brick, cement, furnaces, plumbing, furniture, carpets, lighting fixtures or what not, is an industrial art of the highest class, which must be developed as a unit of service, and rightly realized as the most basic business in the world of American trade and commerce.*

THE WAY EVERY CITY CAN CASH IN ON CHICAGO'S IDEA

Once this vision has been seen by the thousands of progressive merchants who sell these products, the vital importance of linking their sales interests together in some such a concrete exhibition will commend itself as the clearest and most practical project for any live town or city in the United States and Canada, nor will it stop there—but across the seas, wherever homes are recognized as the cornerstone of civilization, the same idea will win its way.

* * *

Builders Beginning to Enter Market

A very significant fact comes to attention when the building activity in the East for the month of June is reviewed. The Dow Service daily building report of June 11 says: "Every department of the building material market, except three, reported at the week-end a firmer demand, a decreasing tendency to bid for business by shading and reshading quotations and a quickening movement on the part of specifiers and contractors to proceed with deferred work."

This change from the previous attitude was noticeable shortly after the first rumors that the Association of Railway Executives at Washington would not consider any reductions in freight rates on building materials.

"Apparently," says the Dow report, "the prospective builders of New York and vicinity have been deferring their building projects in the hope that the freight rate reductions, if granted, would be the last considerable factor in forcing basic building material prices still lower because, with another great inflow of brick that threatened to choke the market in view of heavy absorptions in recent weeks to take up the slack resulting from the brick handlers and barge captains strikes, all the incoming brick cargoes were bought up at once."

It may be that the determination of the Railway Executives to maintain present freight rates on building materials, tho by no means the most desirable attitude, will nevertheless have the effect of convincing the building public of the futility of waiting for any further reductions in building material prices. Already the building material markets are showing a decided tendency to hold steady at present prices and in some instances business is being absolutely declined rather than accept any lower quotations.

* * *

No Building Until Public Is Satisfied?

An interesting viewpoint in regard to the present building situation is the following taken from a bulletin issued by the National Federation of Construction Industries:

The matter of definitely securing a general resumption of construction activity has been taken out of the hands of those elements composing the construction industry, including both employer and employe, and is now in the hands of the public. It is evident on all sides that construction will not begin on anything like an active basis until the public is convinced that what it is getting for its money invested in construction projects is going to have a stable value. What the elements in the construction industry can do is to arrive at a basis of costs in which the public can be satisfied. This satisfaction on the part of the public is the prerequisite to the resumption of construction activity.

APPLY DRUM *and* CABLE *for* MANY USEFUL DUTIES

Simple and Cheap Devices Made from Drum and Cable Effect a Great Saving and Relieve Labor Problem

By Robert Twells, Jr.

IN HIS ADDRESS as retiring president of the American Ceramic Society, R. T. Stull has called attention to the relative importance of the brick industry and its great need for what he terms "mechanical assistance." It is the purpose of the following article to describe certain labor-saving devices, in use in a face and paving brick plant, of such unique character that the writer believes their description may serve as a contribution to the knowledge of proper mechanical construction and arrangement of brick plants. The drum and cable system, used in many brick plants to draw the cars from pit to clay bin, with modifications, is the basis of most of these devices.

METHOD OF WINNING THE SHALE

The shale bank had originally presented considerable difficulty. The plant itself is in a valley closely surrounded on three sides by high, steep ridges. It is necessary to lower the shale to the plant, sometimes using two levels and dumping the shale from one car to the next. The shale is fairly soft. Its strata are almost vertical, with streaks of rock at varying intervals. A steam shovel was practically out of the question, due to the nature of the ground, and to the difficulty of avoiding the rock. As a result, hand shoveling was used.

The problem was solved in this way: A small frame building was built and mounted on low wheels so that it could be moved on a standard gauge track, the frame work of the building being made strong enough to stand severe shock. Three drums are mounted in this car and connected to a 25 H. P. motor. The cable from one of these drums is fastened to the front end of either a plow or a scraper, and is used to pull them forward. The cable from the second drum is fastened to the back of either the plow or the scraper and is used to pull them back from another trip. The cable from the third drum is used to lower the clay car to the factory to be emptied and to draw it up again to be loaded.

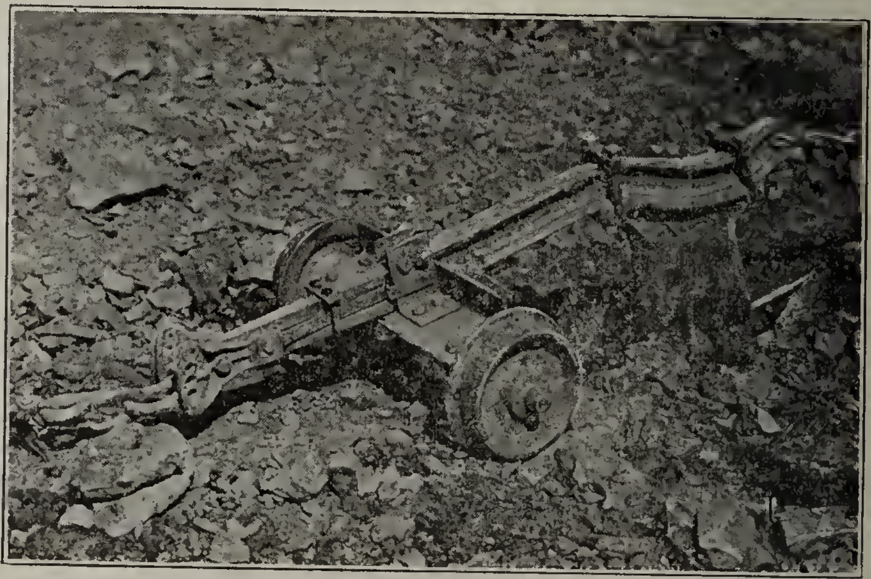
SCRAPER GATHERS CLAY

The method of gathering the shale is simple. A heavy, narrow plow without handles is drawn back and forth tearing up the shale. When enough has been torn loose to provide several hours' work the cables are taken from the plow and fastened to an ordinary large drag scraper. The shale is scooped up and carried to a trestle where it is automatically dumped into a clay car. This system is very flexible. The digging machine may be placed upon the top of a bluff or in a hollow. The plow and scraper can work up or down a steep slope. The usual method of working is to build the clay car track close to a steep bank; a trestle is built over the track and the shale is dropped down the hill and dumped thru the trestle into the clay car. In time the hill is worked away, and replaced by a shallow pit, probably 100 feet in diameter. The pit is always worked in such a way as to insure natural drainage. By slightly altering the position of the digging machine or by moving the trestle, another supply of shale may be opened up for use.

The advantages of this method over hand digging are: (a) it saves the labor of four or five men; (b) it makes the work easier for the men; (c) it insures dry shale even in winter; (d) the location seldom needs changing; it stays in one place from three to six months; (e) it has great capacity; it "puts down" shale for 50,000 brick in four to five hours; (f) practically no repairs have been needed in three years; (g) no powder or dynamite is required; (h) it avoids ledges of rock which the explosives used in connection with hand digging, would scatter into the shale.

MOVING THE STORED SHALE TO THE DRY PANS

The shale for use in bad weather is dumped from a trestle into a long shed adjoining the dry pans. A long conveyor belt was tried, but it gave so much trouble that it was finally torn out and the shale was wheeled to the dry pans in barrows. This was not only expensive, but labor for such work was almost unobtainable. The scraper system had been so satisfactory on the shale bank that a motor and two drums were installed in the storage shed. The shale is now being moved from anywhere in the shed to the dry pans. The same gang which ordinarily works the regular digger on the shale bank merely changes over to the other machine in bad weather instead of laying off to avoid wheeling shale.



Close-up View of Plow Used to Loosen Up Shale.

The remainder of the labor-saving devices center about

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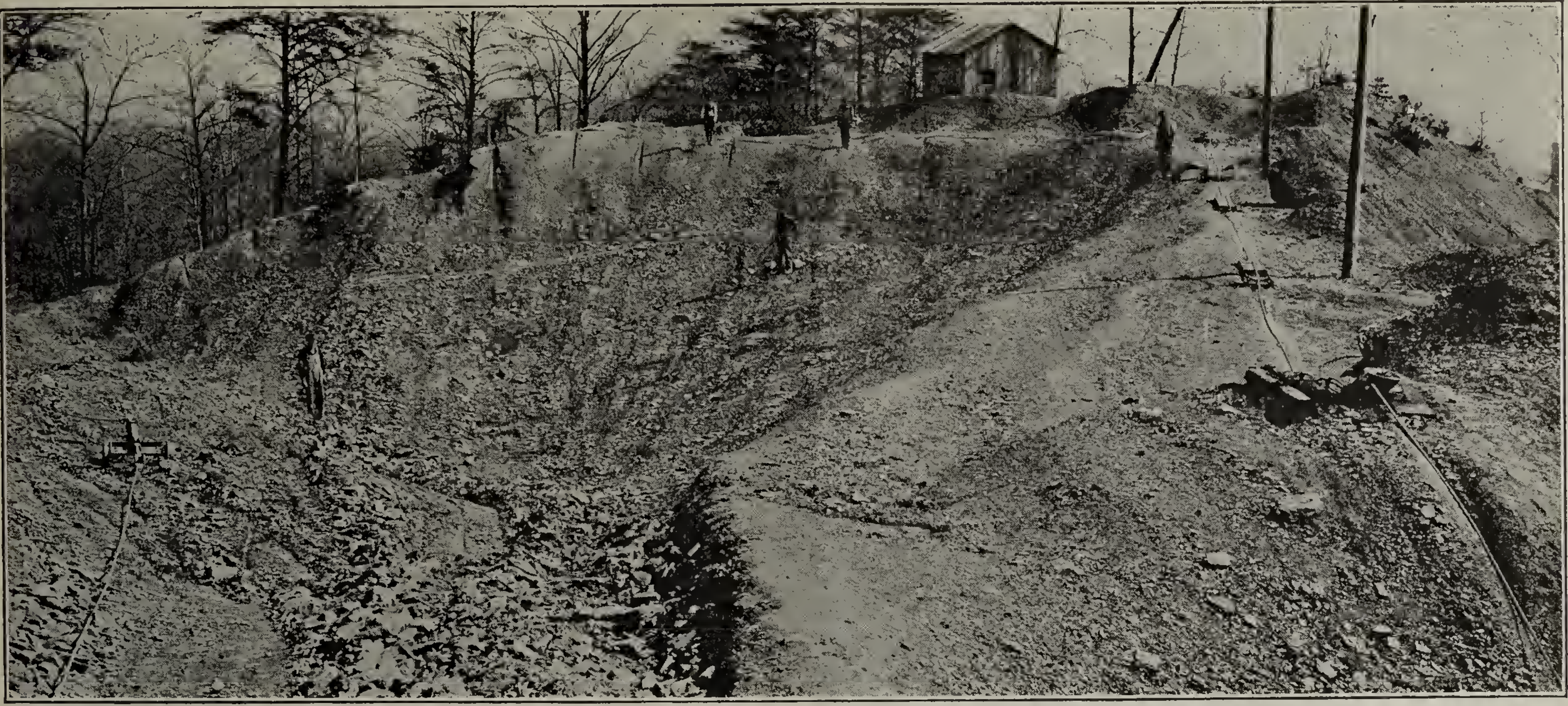

View of Shale Pit Worked by the Plow and Scraper Method of Winning Clay.

the hot end of the dryer. The motor drum that turns the dryer fan is also made to turn four drums which serve various purposes, as explained below.

PULLING THE CARS FROM THE DRYER

Before the installation of this method it had been customary to stop the brick machine gang twice during the morning and afternoon to let down the cars in the dryer. Half the men went to the cool end of the dryer to push the cars; the other half went to the hot end to hold them from running too fast. A half hour of time was lost at each stop, and much confusion and many wrecked cars resulted.

This was remedied by placing a drum in the fan house and running the cable out to the front of the dryer. By changing its direction with sheave wheels, the cable could be made to pull in line with any tunnel. It was not considered practical to couple the cars together, so the following methods were used:

A separate cable is placed in each tunnel. When the operator wishes to pull a string of cars, he enters the cool end of the dryer and fastens the last car to the cable. To do this he uses a short piece of chain with a hook on one end and a clamp on the other. The clamp is similar to that used on a wire stretcher. It can be clamped to the cable at any place in the dryer, since the length of the string of cars is variable.

POWER TRANSFER CAR

After fastening the last car to the cable, the operator returns to the hot end of the dryer, fastens the pulling cable to the short length of cable in the tunnel, places his back against the first car to keep them from moving faster than the cable, applies the power, and walks out ahead of the cars. He applies the power by pulling on a rope, which in turn moves the belt on a tight-and-loose pulley on the drum. By this method one man can easily pull 100 cars from the dryer in six hours. He draws them as they are needed, so there are always cool cars for the setters. There is practically no wreckage of the cars.

The transfer car at the hot end of the dryer gave some trouble. It became difficult to get men to pull it, as the job was looked upon as a "man-killer." The setters on the more distant kilns lost time, since they had to wait for the man to get back with a new car An electrically driven car would have been satisfactory, but its cost and upkeep would have been high. It was therefore decided to use the drum and cable system A stout frame was built near the transfer track and a driving shaft run to the frame from the dryer-fan motor. Two drums were mounted on the frame and geared to run in opposite directions. They were controlled by friction clutches. The cables from these drums were fastened one on each end of the transfer car. The operator merely stands at the frame and works his levers. He can "spot" the car quite accurately. The use of power for the transfer car did not save the labor of a man, but it made his work so much lighter, and so speeded up a lagging end of the plant that the change has been well worth while.

The dryer car had to be pushed up an incline in order to give the necessary slant to enable it to run back to the machine room. This had always been a hard job for one man. It was, therefore, also eliminated by means of a small drum and clutch placed on the shaft between the fan house and the drums.

A COAL-HANDLING DEVICE

The coal for the kilns is dumped from the coal cars onto a trestle about a hundred feet from the fan house, at the hot end of the dryer. A horse and cart is used to deliver coal to the kilns. The cart had first to be backed down under the trestle and filled by shovel. A track was, therefore, laid from the trestle to a platform high enough to enable a car of coal to be dumped directly into the cart. A cable from the fan house drum pulls the car up this incline. The power is applied in this case by pulling on a rope which moves the belt to the drum of a tight-and-loose pulley. The car is very low and is easily filled. It holds just enough to fill the cart. Now one man loads the car while the other dumps the cart. The work is much easier on both, the kilns are soon cooled, and the men may be used to cart away bats and ashes.

The drum and scraper method of handling shale has proved to be so satisfactory that the company is planning to tear out its high elevators, lower the pug mill and screens, and put in a scraper to draw the ground shale from the foot of the dry pans to the screens. They believe that by eliminating their elevators they can cut out at least half of their losses due to breakdown and repairs.

NEW LABOR-SAVING SERVICE PLANNED

The plant has at present under construction a rather novel method of trying to solve the brick-wheeling problem. This is more difficult on account of the flexibility which such a system must have. A temporary track built in easily movable sections is to be used. This will be laid between the kiln and the freight car or stock pile. Three temporary tracks will be laid into the kiln. The workman will place brick on low trucks, which will hold only 100 brick, so that they may be easily handled. There is a slight drop between the kiln and the freight cars, which makes a gravity system possible. A drum will be placed at the kiln door; a cable, fastened to the loaded truck, will pass around the drum and will be fastened to an empty truck. In this way the full truck will pull the empty truck back to the kiln. The advantages of this plan are: (1) Skilled men are no longer required; (2) it enables the men to work during bad weather, since both ends are under cover; and (3) it speeds up production by emptying the kiln more quickly. This method has been tried out and found to be very successful.

View of the Housing of the Machine and Scraper in Act of Dumping Clay Into Cars.

The different devices described are essentially simple, and their cost has been negligible, since, in most cases, they are built in the spare time of the regular blacksmith and carpenter, using, to a large extent, waste material. They have, however, effected a great saving and have enabled the company to compete successfully for labor against the lighter factory work. They are not new in principles nor could they be successfully applied to all plants, but their description serves to show the possibilities of the drum and cable as a labor-saving device.

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A Correction

In the write-up of the Franklin Brick & Tile Co., which appeared in the June 14 issue of *Brick and Clay Record*, reference was made to R. S. Dingledine as general manager of the concern, which was in error. F. W. Morrison holds this position, while Mr. Dingledine is secretary-treasurer.

The article neglected to mention that Burt McIntosh is superintendent of Plant No. 2, or the new hollow ware plant; Leo Layton is superintendent of Plant No. 1 or the face and common brick plant. T. W. Garve, constructing engineer, having finished with the Franklin Brick & Tile Co., is starting a large plant for the Clay Products Co. of America, New Hope, Pa.

⁂

Terra Cotta in Garden Decorations

A booklet entitled "Garden Furniture" has recently been issued by the Architectural Decorating Co., Chicago, Ill. In it are shown designs for urns, statues, pedestals, fountains and figures, benches, in short every kind of decoration used in gardens and lawns. The designs in most instances look very pretty and we have but one fault to find with them, they are of cement.

Now if all these beautiful things had been made of terra cotta, we would have nothing but praise for them. And why not use terra cotta? Here is a field for this clay product which apparently has never even been touched. The natural adaptability of terra cotta, the ease with which it can be molded into the most delicate shapes, figures and designs and its superior beauty could enable it to successfully compete with any material.

With the proper publicity and advertising, manufacturers would undoubtedly find this a profitable field for their product.

⁂

Hollow Tile Farm Wins the Prize

The management of the Clayton County, Iowa, Agricultural Fair conducted a contest at the last exhibition which attracted much attention because of its novelty. Prizes were offered for the neatest, most attractive group of farm buildings. Contestants were solicited to exhibit photographs of their farmstead at the Fair. Then a committee visited each farm shown in the pictures and awarded the prizes.

The farm of E. H. Weihe, near Postville, Ia., was given first prize. It is significant that most of the buildings on this farm were of hollow tile construction. The trimness and neatness of these buildings added much to the general attractiveness of the place which had won the owner the prize. The hog house and poultry house are modern in every way as well as in the building material. The garage and shop have been stuccoed over as the block were of different size and the stucco improved the appearance of the building.

"Buildings made of hollow tile give the farm a neat appearance, don't you think so?" Mr. Weihe was asked.

"Sure they do. Helped me to get the prize, I guess," he answered.

Hollow Tile Chicken House Which Was One of the Structures Built of Hollow Tile on the Prize Winning Farm Near Postville, Iowa.

"How about other things. Does block on the whole satisfy you as a building material?"

"Yes," he answered with a promptness and a decisiveness which made his words very emphatic. "I like hollow tile for three reasons. It's cheaper. It's warmer. It is easier and costs less to keep up."

NEW JERSEY CLAY MEN ENDORSE PROTECTIVE TARIFF

Large Attendance at Summer Meeting of New Jersey Clayworkers Association and Eastern Section of A. C. S.—Papers on Hollow Tile and Whiteware Bodies Prove Interesting

THE SUMMER MEETING of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society, held at Trenton, N. J., on Friday, June 17, will go down on the association records as one of the most successful gatherings of the organization. Close to 100 members journeyed to the Trenton Country Club, despite the fact that the weather was not of the best, but not a man present who regretted spending the day at the convention, and who did not feel well repaid for the trip.

Arrangements were made for a morning and afternoon session, the papers and business being limited to allow time for those in attendance to visit some of the local potteries. Needless to say, the majority of the old familiar faces were to be seen, and many new ones among the younger generation—possible future leaders in the thriving ceramic industry in the state.

ERECTION OF CERAMICS BUILDING

The meeting was called to order by President Abel Hansen on close to schedule time, and immediately following, Charles Howell Cook, president of the Executive Committee, presented a report on the new ceramic school and research building at New Brunswick, showing the exact situation at the present time.

He said that contracts for the school had just been awarded, and that construction would be commenced within a few days. The general contract was given to the Franklin M. Harris Co., Philadelphia, Pa., at a figure of $73,877. The terra cotta will be furnished by the New Jersey Terra Cotta Co., Perth Amboy, N. J., at a price of $6,955.

The different contracts will absorb the appropriation of $100,000 for the building granted by the state, and an active campaign will soon be inaugurated to secure an additional sum of $25,000 in material and funds from ceramic interests of the state to carry out the entire project, including the purchase and installation of necessary machinery and equipment in the building. This work has been divided into nine different groups, each with a committee to act in the respective branch of manufacture.

NEW BY-LAWS

In concluding his report, Mr. Cook made an urgent plea for the hearty support of the institution by all connected with the clayworking industries in the state. He said that a wonderful oportunity would be presented to the young men who wished to follow the ceramic lines, and he asked those in attendance to see that full scholarships prevailed at the school.

As chairman of a recent committee appointed to draft new by-laws for the organization, to correspond with the affiliation with the American Ceramic Society, R. H. Minton tendered a comprehensive report, reading a draft of the proposed by-laws as arranged by the committee. These were referred to the Executive Committee for proper action and adoption.

The first paper on the program was one dealing with the tariff question and its relation to the ceramic industry, by William Burgess, United States Potters' Association. In the absence of Mr. Burgess, who had been called to Washington in connection with pending tariff matters, the paper was read by Mr. Minton.

A PROTECTIVE TARIFF FOR POTTERY

Mr. Burgess said that we are now in the throes of a tariff revolution, and that it is rather surprising to find how little is known generally of tariff matters, and their real importance to the industries of the country. Tariff revision, he pointed out, is an exceedingly difficult matter, and present conditions show no positive foundation upon which to build.

He referred to his different visits to important pottery centers of the world, including England, France, Germany, Austria, Holland, Belgium, Japan and China, and explained operations in pottery circles in these lands. The average prevailing wage scale in the ceramic industry in the different countries were set forth as follows:

United States, 70 cents per hour; Great Britain, 18 cents; France, 15 cents; Holland, 13 cents; Germany 6 to 7 cents; and Japan, 4 to 5 cents. In the United States, women to the total of about one-third of the aggregate pottery employes are engaged at the different plants; in England, about one-half the workers are women; and in Germany and Central Europe, approximately two-thirds the pottery labor is composed of girls and women. In these other countries, the women do much of the heavy labor, such as is done always by men in the United States.

JAPANESE WAGES EXTREMELY LOW

In addition to a large working force of women in Japan, many small boys are employed at the potteries, largely in decorating work, and at a very nominal wage. Even the best of Japanese workers, such as the men who handle the big jigger, receive at a maximum, 85 cents per working day of 12 hours, while the women receive from 20 to 25 cents.

With such conditions, it is little wonder, Mr. Burgess said, that the product of this labor can be landed in the United States at a price much below the cost of manufacture in this country.

He explained the method of placing goods in this country under the present tariff laws with material under-valuation, some wares being invoiced at about one-half their proper cost, and made a strong plea for a basis of assessment on the American wholesale selling value, instead of the customary foreign market value. Such a plan, he pointed out, was now being carefully considered by the Ways and Means Committee at Washington.

U. S. POTTERS WANT FAIR SHARE OF OWN MARKET

Mr. Burgess discussed certain proposed features of the new tariff bill, and explained the points of merit. He said that it was not the desire of United States manufacturers to prohibit the importation of foreign pottery ware of any kind, but to so hold it in check that American manufacturers may obtain a fair share of the market.

While previous to the world war, the local manufacturers did not furnish more than forty-five per cent. of the consumption of pottery ware in this country, the business developed under the extreme pressure so that six months ago American manufacturers were supplying sixty per cent. of the demand.

In conclusion, he set forth that with back to normalcy as the effort, it was interesting to note just how active Germany is in this same direction—she is, in reality, showing us how, and import figures indicate how fast she is arriving at this point in her chinaware products. For the past ten months of the fiscal year, the exports from Germany to this country increased from $400,000 in 1919 to $2,500,000 in 1921. These are the low foreign values given in United States statistics, but they really mean a displacement of over $5,000,000 of actual business in the American market.

DISCUSSION AND RESOLUTIONS

Considerable discussion followed the reading of Mr. Burgess' paper, entered into by Mr. Cook, Charles A. Bloomfield, Mr. Minton, C. W. Crane and others. But Mr. Cook and Mr. Bloomfield were strong in their comments on the need for a protective tariff, while Mr. Crane closely seconded these views. Mr. Minton, taking an international viewpoint to the situation, said that the matter of tariff was one that must be considered carefully and intelligently from every angle, and that in order for foreign countries to defray their war debts, goods must be sold in the United States and other lands.

Upon motion by Mr. Cook, seconded by Mr. Bloomfield, it was voted that a resolution be properly framed and presented to the Ways and Means Committee at Washington, setting forth that the association favored tariff duties based on United States valuation of foreign goods.

READS PAPER ON HOLLOW BUILDING TILE

The other paper of the morning session was on the subject of "Hollow Building Tile," by Walter A. Hull, Bureau of Standards, Washington. The address was illustrated with a number of interesting and instructive lantern slides.

Mr. Hull's talk dealt with cooperative research work in hollow building tile, now being carried out at the bureau by the department and representatives of the Hollow Building Tile Association, Mr. Foster, from the Ohio State University, being now stationed at the bureau for association work.

He spoke of the value of technical research, and particularly in the line of hollow tile, in an effort to place the material on the right footing before consumers. The matter of fire resistance of hollow tile is one of great importance, and a series of comprehensive tests, with special equipment, have been carried out at the bureau laboratories to determine the ability and qualifications of the material in this line.

FINE LUNCHEON IS SERVED

Mr. Hull said that other experiments were being conducted to ascertain the relation of fire resistance to other physical properties of hollow tile, such as absorption, strength at different temperatures, expansion, and so on. The different explanations were accompanied by lantern slides that assisted in informing the listeners of the different features of the test work.

At one o'clock an excellent luncheon was served on the veranda of the club, and the meal was enjoyed with more than ordinary relish. All speech making after the repast was eliminated and shortly after two p. m. the afternoon session was called to order.

The single paper slated for the later session was by Professor A. S. Watts, Ohio State University, on the subject of "The Factory Preparation and Burning of Whiteware Bodies," a highly pertinent and important subject to the majority of those in attendance.

COMPREHENSIVE TREATISE ON WHITEWARE BODIES

Professor Watts treated the topic at great length, covering practically all features of operation up to the point of removal from the kiln. The talk made reference to raw materials, mixing the body, preparation of stain, machinery and equipment, setting the kiln and firing the kiln.

He said that in the production of whiteware of all kinds, such as porcelain, etc., the phrase, "Not how cheap, but how good," was particularly applicable, and he made reference to a number of tests that he had conducted in connection with mixing and other features of the work. Different phases touched upon are set forth in the following:

The fine grinding of flint and feldspar reduces the amount of the flux and ball clay, and should go to improve the color of the ware. Whether fine grinding causes cracking, is rather a disputed subject, but the raw clay body is made more dense by such operation, and which easily may lead to cracking. Where the ball clay can be reduced, the tendency to fracture will be reduced, and in the matter of European porcelains, these do not contain any ball clay.

TELLS CORRECT PREPARATION OF STAIN

With respect to the mixing of the body, it was recommended to add feldspar, flint, whiting, etc., to the ball clay slip in the blunger, introducing the china clay and stain last. The best practice, it was said, was to introduce the ball clay slip into a large ball mill, charged about one-third with pebbles, then add feldspar and flint; add additional water, where necessary to make a thin slip. The material should be subjected to a

Those in Attendance at the Summer Meeting of the New Jersey Clayworkers Association and Eastern Section of the American Ceramic Society.

grind of two to three hours' duration, then add stain and china clay, and grind to mix only.

Various rules were given for the preparation of stain, showing faulty methods of adding cobalt, the correct preparation of stain from cobalt sulphate, adding stain to the body and the proper proportion of stain to the body. Reference, also, was made to the matter of stain in glazes.

Referring to equipment, the subject of the maximum pressure was considered carefully. For a good working body, it was set forth that the pressure should be about eighty pounds for a body, free from ball clay. An additional pressure of two pounds for every per cent. of ball clay present should be allowed, that is, 100 pounds total, for a body containing ten per cent. of ball clay; 110 pounds for a body with fifteen per cent., and so on. When the press stops running water, the pressure should be increased ten pounds for a few minutes before opening.

In regard to plasticity, the terms "greasy and sticky" were employed to characterize the qualities of different clays. These references, it was said, were of greater importance than ordinarily believed, and that the terms at a future date would likely come into more general use when the character of different clays is considered.

HOW TO SET KILNS

With reference to pug mills, it was pointed out that for everybody there is only one satisfactory rate of travel thru any given pug mill with a given size and shape of outlet. A slower rate will produce an open body, and a faster one, a granular body, the latter being due to the friction in the mill. Control is by the regulation of the number of knives in the mill and the slope of the knife blades.

Speaking of the setting of kilns, Professor Watts said that in his experience, the first and second rings should be set one inch apart, except midway between cuts, and the inside rings all set one inch apart. Leave a one-inch opening between all rings. Not more than six inches should be left between the top of bungs and the crown at any point.

In up-draft kilns, the well-hole should equal the sum of the cross sections of the flues leading to it. In this case, the center ring of saggers may run to six inches below the crown if braced in a substantial manner.

In down-draft kilns, the center of the kiln may be set twelve to fifteen inches below the crown, and the burn will be improved if an opening is provided from top to bottom in the center.

INSPECT NEW POTTERIES

The reference to kiln firing was made with respect to hard fire porcelain, free from ball clay. With the body biscuited, the glost fire may progress as fast as the coal will burn, maintaining a condition bordering on reduction from the time that the kiln is hot enough to develop such a condition, or from about the tenth hour. For the best results, the fuel beds should never burn low enough to leak any air, as a highly oxidizing condition is as dangerous as one of extreme reduction, and results in blue and cream ware instead of white.

The meeting adjourned at four o'clock to give the members and guests full opportunity to inspect the new plants of either the Lenox pottery or the Mutual Potteries Co. Automobiles were provided to take those desiring to go, and the points of interest were just about equally divided. Either plant has many new and interesting features, the one of the Lenox being devoted to the manufacture of fine chinaware, and the Mutual to high-grade sanitary ware.

The inspection tours were enjoyed heartily, and it was much later in the day when the different groups broke up. It was a happy conclusion to one of the most successful gatherings yet held of the local clayworkers.

ROSTER OF THE MEETING

Among those in attendance were:

Abel Hansen, president, the Fords Porcelain Works, Perth Amboy; Charles A. Bloomfield, head of the Bloomfield, Clay Co., Metuchen; Professor George H. Brown, director, Department of Ceramics, Rutgers College, New Brunswick; Fred A. Whitaker, General Ceramics Co., Keasbey; Daniel Forst and A. D. Forst, Jr., Robertson Art Tile Co., Trenton; Andrew Foltz, Lambertville Pottery Co., Lambertville; Oscar E. Mathieson, New Jersey Terra Cotta Co., Perth Amboy; Charles W. Crane, the Crossman Co., South Amboy; Howard W. Bloomfield, Metuchen; R. H. Minton, the General Ceramics Co., Metuchen; Paul Duryea, Cook Pottery Co., Trenton; Charles Howell Cook, president, the Cook Pottery Co., Trenton; Charles Lovett, Cook Pottery Co., Trenton; W. C. Billman, Manufacturers' Association of New Jersey, Trenton; A. Mathiasen, Matawan Tile Co., Matawan; August Staudt, Perth Amboy Tile Works, Perth Amboy; John Goheen and L. Morton Morley, Brown Instrument Co., Philadelphia, Pa.; D. H. Applegate, Philadelphia, Pa.; Edward Stover, Trenton Potteries Co., Trenton; Charles T. H. Phillips, Sneyd Enameled Brick Co., Trenton; S. O. Conkling, Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa ; J. V. Brockway and W. M. DeWitt, Johns-Manville Co., Manville, N. J.; R. Hazlehurst, Old Bridge; H. J. Knollman, Philadelphia, Pa.; W. Humphreys, Washington, N. J.; W. A. Hull, Bureau of Standards, Washington; William Chele, Empire China Co., Brooklyn, N. Y.; M. W. Twitchell, assistant state geologist, Trenton; E. C. Hill, Philadelphia, Pa.; J. G. Bragg, Department of Conservation and Development, Trenton; Stephen Meagher, Trenton; L E. Riddle, Edgar Brothers Clay Co., Metuchen; John Kreger, Woodbridge Ceramic Corporation, Woodbridge; T. S. Thompson, Millington, N. J.; T. C. Dunham, Independent Brick Co., Trenton; Leslie Brown and Dryden Kuser, Lenox, Inc., Trenton; Peter P. Schendorf, Woodbridge; Marcus Wright and William Wright, South River; C. Hanke, Perth Amboy; W. L. Meek, Perth Amboy; M. M. McHose, Perth Amboy; Phil J. Faherty, Lambertville Pottery Co., Lambertville; Kenneth E. Ward, Newark; Charles Bates, Perth Amboy; O. Otis Bowman and J. Bowman, Trenton Fire Clay and Porcelain Co., Trenton; A. D. Forst, Robertson Art Tile Co., Trenton; Frank Morris, Trenton; M. Meikle, Perth Amboy; John L. Kuser, Lenox, Inc.; Richard Barlow, Roessler & Hasslacher Chemical Co., Trenton; C. F. Geiger, Perth Amboy; George Simcoe, Electric Porcelain & Mfg. Co., Trenton; John Maddock, Thomas Maddock's Sons Co., Trenton; Francis Burroughs, Star Porcelain Co., Trenton; Leonard Briggs, Lenox, Inc., Trenton; L. E. Barker, Matawan; LeRoy W. Allison, Newark; Joseph Boughey, Newark; Louis Pohl, Trenton; C. Hawke, Perth Amboy.

* * *

A. F. B. A. DISTRIBUTES PAMPHLET *on* BRICK COST *in* DWELLING—ISSUES BUNGALOW PLANS

THERE ARE TWO POINTS in which most ordinary men are more vulnerable than in any others, and these are his pride and his pocketbook. If you were an automobile salesman and could show your prospect how he could with very little more outlay obtain a car much more beautiful, comfortable and efficient than the one he had originally contemplated buying, you would undoubtedly be sure of a sale.

In the expending of a million dollars for the advertising of face brick, this is virtually what the American Face Brick Association is doing. A well-organized plan service, bulletins and literature of all descriptions tell the pubic just how the face brick stands in the construction cost of a completed home. The chief obstacle to overcome is the erroneous yet generally prevalent idea that the cost of building a house with face brick on all walls is prohibitive.

COSTS LESS THAN 7 PER CENT. MORE THAN FRAME

One of the latest efforts of the association to this end is the issuing of a pamphlet which shows in figures and also in graphic illustrations how the cost of face brick in a home compares with the total cost. In making clear this point, a moderate-sized brick house has been taken as an example. The house has seven rooms, with sun parlor and two porches, brick foundation walls twelve inches thick, and house walls eight inches thick, furred on the interior, and faced all around with a first grade of face brick. On this house were secured bids in the fall of 1919 from contractors in such centers as Chicago, St. Louis, Washington, D. C., Boston, Buffalo, Philadelphia, Cleveland, Salt Lake City, and Seattle. The bids averaged $11,583.64, which, by the way, was just 6.07 per cent. more than a like house built of frame.

In the illustration, Diagram A, can be seen that the labor and material costs are 41.2 per cent. and 58.8 per cent. respectively, and that the cost of the face brick, both labor and material is but ten per cent. of the cost of the whole.

Of Diagram B, the pamphlet says: "Here you will see the relative cost of the various elements that enter into the construction of the house. Not only the main divisions of Masonry, 31.7 per cent.; Carpentry, 39.2 per cent., and Other Trades, 29.1 per cent., are given, but each main operation is divided between material and labor."

FACE BRICK COST SMALL PART OF TOTAL

The illustration, Diagram C, is essentially the same as Diagram B, but is somewhat simpler to comprehend and brings home the actual cost relationship of the various items more forcibly thru the method of illustration. The house representing the face brick cost would easily become lost in the larger one representing the total cost.

So far nothing has been said of the attractive booklets which the American Face Brick Association puts out showing innumerable different designs of bungalows and houses. Here are illustrated small houses, large houses, low bungalows, high bungalows—in short, every kind of dwelling to suit the needs and tastes of the man desiring to build a moderately-priced home.

Besides a picture of the exterior of the house, a drawing of the floor plan is also given, from which it can be seen at once whether the layout of the rooms is desirable or in conformity with the requirements and desires of the individual interested. To make the booklets especially attractive, instead of the usual black and white drawings, the view of the homes is in perspective, with appropriate landscape effects, and the whole is given a pleasing touch by sepia coloring.

FLOOR PLANS AND EXTERIORS INTERCHANGEABLE

These houses are always drawn in pairs with different exterior designs and floor plans; the exterior design and the floor plans of the pair are, however, interchangeable. So it is possible with this system, if the exterior of one bungalow is pleasing and the floor plan of the other desired, these two can be combined into exactly what is wanted.

The price of the drawings and specifications of any home shown is $15, and this also includes complete estimates of the material required for the brickwork of the different types of wall. Every assistance is given the builder in the way of explanations, suggestions, or modifications of minor details.

Besides the direct results in selling more face brick which such advertising is bound to show, it is doing far more than that. In conjunction with the national advertising done by the other clay products associations, it is helping build piece by piece the foundations of a spirit of good will toward clay products construction; it is helping to make the prospective builders of America realize the value of more permanent, fireproof and beautiful construction which is possible with brick and tile.

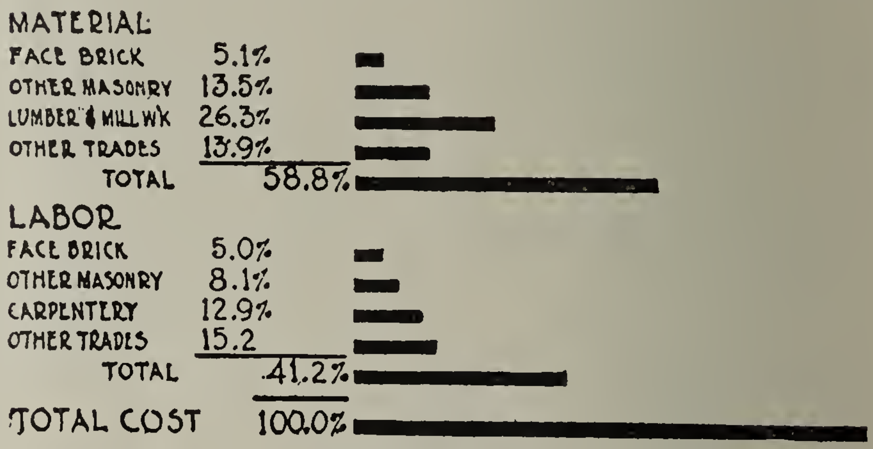


Diagram A

This Illustration Presents Essentially the Same Facts as Shown Below, Namely the Low Cost of Face Brick Compared to the Cost of the Whole House.

⁂

Brick That Will Float

Manufacturing brick that float sounds rather incredible, yet it is claimed that such brick are being made from an earth found in Denmark. The chief constituent of this earth is the fossilized remains of diatoms, a very minute form of life. The raw material has been shipped to Colchester, England, and there manufactured into brick which are claimed to be both sound and fire proof.

Frewen cavity brick, of which it is claimed 1,800 take the place of 20,000 ordinary brick, are also an interesting novelty. The brick are so laid that the hollow spaces connect and form a continuous space for air to circulate thru the walls.

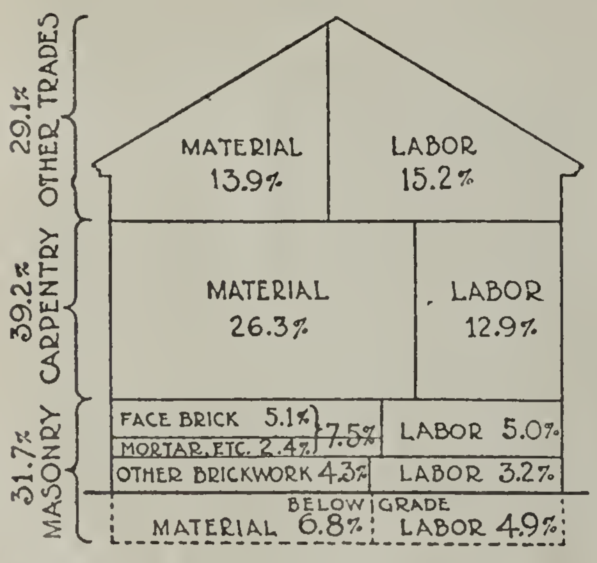


Diagram B

Even to Someone with No Knowledge in Reading Graphs and Charts the Comparison Below Must Be Absolutely Clear. Comparing the Smallest House with the Largest and Again the Section Below the Dotted Line in the Large House, Diagram C, and the Fact Will at Once Be Apparent That the Face Brick Cost Is an Exceedingly Small Part of the Whole.

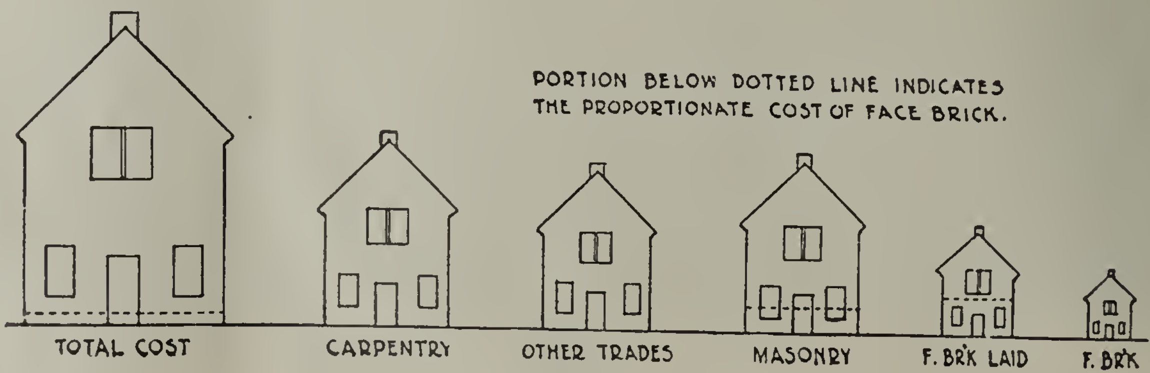

PORTION BELOW DOTTED LINE INDICATES THE PROPORTIONATE COST OF FACE BRICK.
TOTAL COST
CARPENTRY
OTHER TRADES
MASONRY
F. BR'K LAID
F. BR'K

Diagram C

The BUILDING SITUATION *in the* EAST

THERE IS a slow but steady trend towards greater activity in construction operations in the Eastern districts. An increasing number of projects have developed, with an encouraging outlook for the months to come. The majority of work is now devoted to apartment houses, tenement buildings and homes of various types.

Mason material dealers report an improved demand for building materials at New York and surrounding districts, with expectancy of greater sales at an early date. Speculative building is beginning to revive, and it is from this source of operations that dealers are casting hopes of early sizable orders. Stocks are being well maintained in anticipation of the demand.

The labor situation has been a disturbing factor in certain sections during the past fortnight, particularly in New Jersey, where both Newark and Trenton have been ensnarled in controversies between employer and employe. A tentative settlement has been made at Newark, with prospects of a like agreement at Trenton. Conditions with regard to labor show considerable improvement in the New England district.

INCREASE IN NEW CONSTRUCTION

The following brief review sets forth the current situation in the various important Eastern cities:

New England.—Boston is one of the few cities in this territory showing an inclination towards reduced building enterprises, and the past fortnight has been featureless. Building permits in this time cover, for the most part, alteration and improvement work in apartments, dwellings and garages.

There is an encouraging outlook with respect to new construction in this section. A recently formed company, known as The Bostonian, Inc., has plans under way for the erection of a new twelve-story hotel at Arlington and Providence Streets, Boston, to be of brick and fireproof construction, and estimated to cost about $10,000,000. Charles S. Averill, of the Bancroft Hotel, Worcester, Mass., is interested in the project. Desmond & Lord, Boston, are architects.

The movement for the open shop in the building trades, brought about by strike conditions in different New England cities, is growing and increasing in strength. It has now reached other lines of industry, and employers are making a determined stand in the matter of wages and hours.

At Fall River, workers in the building field are still involved in a strike, with possibility of settlement not far distant, but with the open shop pretty well uppermost.

SPRINGFIELD UNIONS COMPROMISE

The strike at Springfield is beginning to weaken, and a compromise agreement has been made between the Building Trades Employers' Association and the men. This calls for a wage decrease of ten cents an hour, and about one-half of the workers in the building trades have returned to their jobs. Others are still holding out.

Bricklayers at Hartford have voted a voluntary wage reduction of $1 a day, making the scale $8 per day.

Burned clay products are holding their own in the matter of prices, despite the lag in construction work at Boston, with common brick, as to be expected, predominating.

The New England Brick Co. is making the following quotations: Common sand-struck brick, delivered on the job in Greater Boston, $10 to $20 a thousand, the first figure being for large orders and the latter for small lots; selected water-struck brick, $35 a thousand, delivered.

LITTLE DEMAND FOR FIRE BRICK

There is a noticeable slack in the call for fire brick, with a slight easing in price. Fire clay is being turned at a little better than $22 a ton. After the recent drop, hollow tile seems to have found its level at around the $120 mark, average, and the demand is about what can be expected.

Providence, R. I., material dealers are holding common brick at $28 and $30 a thousand, delivered, with indication of a little recession in this figure at an early date.

Fire brick is selling in this city at from $80 to $100, according to selection, and fire clay at $1.50 a bag, retail. Clay tile partition blocks, 4x12x12-inch, are priced at twenty-two cents each, and 8x12x12-inch at thirty-nine cents. Flue lining varies from forty-five cents to $1.31 per ft., according to size.

NEW YORK CONTINUES TO BUILD

New York.—With a steady trend of improvement in the housing line at Greater New York, the situation continues to hold interest in the forwarding movement. Operations in other phases of construction, however, are trailing along.

Labor can be held as being largely responsible for the latter condition, as up to the present time there has been no reduction in the wage scale.

Building department records show that plans for new homes have been filed at the rate of 1,000 a month for the past ninety days, or dating, practically, from the time that the tax exemption ordinance covering construction of this character went into effect. Housing construction shows an increase of about 157 per cent. over the totals of a year ago.

The New York brick market remains rather stagnant and without particular interest. At the same time, sizable distribution is being made, and practically all recent brick arrivals have been absorbed. Sales are running from twenty-five to thirty-five cargoes a week, with largest distribution to Brooklyn and Bronx boroughs, here to be used for current housing operations.

The price of common brick holds at $15, with slight concession for off-quality lots. Second-hand material is priced at $45 a load of 3,000 brick, delivered. Local dealers are selling Hudson River common at around $18, delivered.

Hollow tile for interior work, carries the following quotations at leading dealers:

2x12x12-inch, $180 per 1,000 sq. ft.; 3x12x12-inch, $180; 4x12x12-inch, $200; and 6x12x12-inch, $280 per 1,000 sq. ft.

Fire brick is priced at $75 and $85 a thousand at the material yards, with slight easing in business with the approach of summer.

FACE BRICK PRICES

The Hay Walker Brick Co., Inc., one of the prominent dealers in the face brick line, is making the following quotations at the present time:

Red, smooth, $42-$50 a thousand; Red, Ruff Texture, $42-$50; Grey, smooth, $55-$59; Grey, Ruff Texture, $52-$59; Buff, smooth, $55-$59; Buff, Ruff Texture, $52-$55. Smooth flashed, $54.50; Texture flashed, $48-$52.

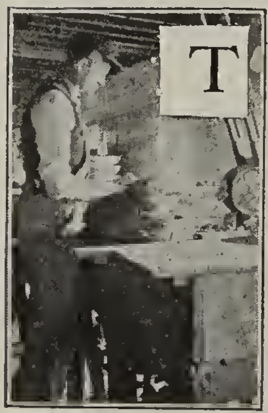
This company, incidentally, reports business as being good,

(*Continued on page* 1111)

FINE CERAMIC MANUFACTURE

A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

TO INVESTIGATE GEORGIA CLAYS



THE CONTINUED DEPENDENCE on English clays by American potters despite the fact that this country is rich in all types of clay, seems an economic waste. The reason, of course, for this situation is due to the lack of complete knowledge of our own clay resources and to the reluctance on the part of American potters to introduce unknown clays in the fabrication of their ware.

Altho it has been known that there are in this country deposits of very valuable clays, extensive investigations of these clays have never been made. The State of Georgia for instance, has remarkable deposits of white clays of all varieties and there is little doubt but that in the wide range of these clays, there are some grades that might even excel English clays or at least equal them.

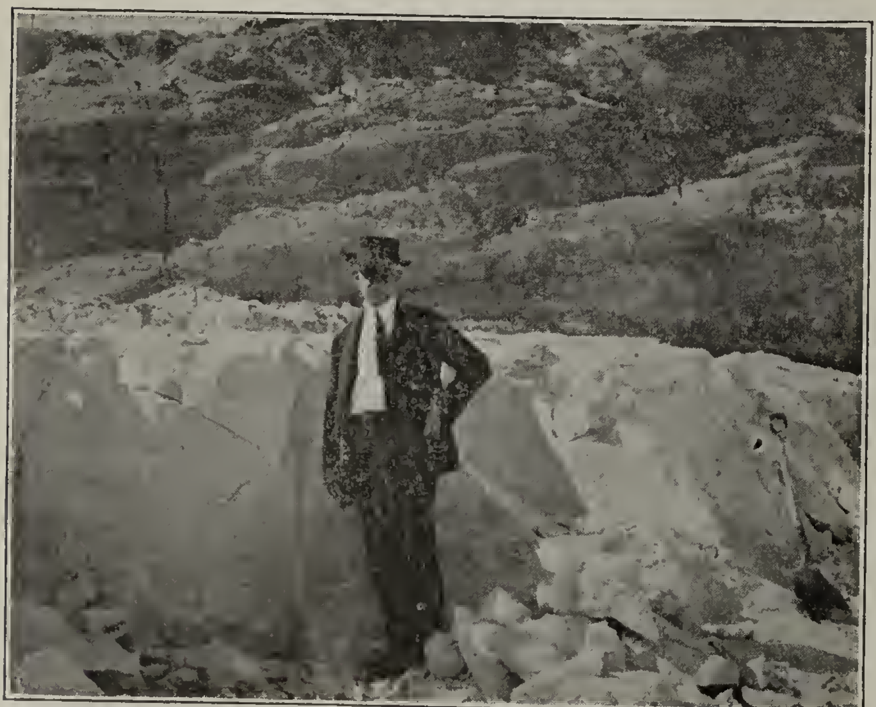
CENTRAL OF GEORGIA INVESTIGATING CLAYS

It now appears that the situation would change. A definite plan for the investigation of Georgia clays has been made by a cooperative agreement between the Central of Georgia Railroad on whose right of way sixty-five to seventy per cent. of the white clays of Georgia are located. This railroad has taken upon itself the investigation of these clays. R. T. Stull, superintendent of the Ceramic Experiment Station, was invited to accompany James M. Mallory, industrial agent of the Central of Georgia Railroad, with headquarters at Atlanta, Ga., and together with several others made extensive trips to clay deposits on the various branches of the above railroad.

Operations at the Bauxite Mines of the Republic (Ga.) Mining Co.

Following this investigation it was agreed that an examination of the clays on the Coastal plain of Georgia would be made. The Central of Georgia Railroad has agreed to furnish large samples of clay for tests and will spend from $6,000 to $10,000 a year beginning July 1 on the investigation.

Mr. Stull, who is in charge of this research, proposes to in-



A Good, Close View of the Golding Sons Co. Mines at Butler, Ga. Mr. Golding In the Center.

A Great Variety of Minerals Are Found in Georgia. A Section of a Graphite Mine Is Shown Above.

vestigate the mining and refining methods and the possible utilization of the clays in ceramic products, and possibly for paint, rubber, oil cloth and other uses.

In order to secure uniformity in quality it is possible that the clay will be divided into three divisions of fineness of grain, using Mr. Stull's own machine invention for elutriation. The three divisions will then be blended so as to overcome the variation in size.

Another View of the Kaolin Mines of the Golding Sons Co. at Butler, Ga. It Is Hoped That Georgia Clays Will Prove Equal to the English Clays.

Besides an examination of kaolins it is probable that the investigation will be extended to bauxite and graphite found in Georgia.

* * *

Operatives and Potters Fail to Agree

Inability to come to an understanding on thirty-seven propositions presented by generalware pottery manufacturers to the Executive Board of the National Brotherhood of Operative Potters recently, at Atlantic City, has resulted in the entire list being referred for discussion at the general wage conference which will convene on or about August 1 in parlors of the Hotel Chalfonte, Atlantic City, N. J.

Admission has been made by some members of the committee representing the workers that many of the propositions of the manufacturers possess merit, and would tend to better the production of dinnerware, yet it has been set up that to agree to these propositions at this time would lower the wages of the operative potters, and that the cost of living has not come down to a level that would warrant the operatives in accepting a reduction.

It is not denied by many individual pottery workers that the existing wage scale will be revised sooner or later.

The conference between the Labor Committee of the United States Potters' Association and the Executive Board of the Brotherhood was of rather short duration, lasting less than twenty-four hours.

The manufacturers have insisted that at the forthcoming wage conference the Executive Board and the Conference Committee of the Brotherhood, the latter being appointed at the Brotherhood convention in July, come into the next conference clothed with full and final power to enter into joint agreements which will be binding upon both sides. Up to this time decisions reached in such conferences have not been made binding upon the part of the Brotherhood until ratified by a referendum vote of the trade.

There have been many instances during the last few years where the agreement as it exists today has been treated by some of the pottery craft as a "scrap of paper", as numerous unauthorized strikes have been noted and demands made upon manufacturers which have been frowned upon by the executive officials of the Brotherhood.

What propositions will be considered by the delegates to the Brotherhood convention in July none outside of the executives of the organization know, and no announcement is expected to be made in advance anent the subject matter of these.

* * *

Making Floor Tile by Chemical Process

A new departure in the manufacture of floor tile is announced by the Boving Manufacturing Co., Trenton, N. J. The different feature of this tile is that it is not fired, but goes thru a patented chemical process invented by Paul C. Boving, former president and general manager of the Mercer Clay Products Co.

The new plant of the company, President Boving says, has been laid out for a capacity of 2,000 sq. ft. of tile, which will later be increased to 10,000.

The chief constituent of the product is discarded pottery ware, which is ground very fine in a tube mill and forms about sixty per cent. of the finished product. After being ground, the material is mixed with chemicals and sifted thru a fine screen. The final operation is the pressing, which is done by an electric press capable of pressing forty-eight pieces at one time.

All colors, shapes and designs are possible with this process, and the tile will be sold at a lesser price than the ordinary product. The tile is especially recommended for sanitary kitchen floors and bathrooms, and Mr. Boving claims that these tile are not cold for the feet, but are just as pleasant to walk on as a wooden flooring.

* * *

Pottery Market Shows Increased Activity

Indications of better times for the general ware pottery industry, manufacturers say, lie in the larger number of requests to ship orders and a reduction in the number of cancellations during the last few weeks. As a whole, the eastern Ohio pottery district is operating at approximately sixty to seventy-five per cent. capacity. Buyers are coming into the market more frequently, and there is a strong tendency evident among them to insist upon better dinnerware.

The ware of the quality required for border patterns is not very plentiful, and delivery on orders for this class of merchandise are months behind. Orders for second selections, "thirds," and, in some cases, plain whiteware, can be filled immediately upon receipt of the order.

* * *

French Concern May Build in California

That the Haviland China Co. of France, world famous manufacturers of high grade dishes, contemplates construction of a chinaware factory in Los Angeles, Cal., and the use of clay from Southern California deposits is the latest topic of conversation in pottery circles in the Pacific coast territory.

The basis for this rumor is that H. Henjes, New York representative of the Haviland Co. has just personally visited the Southern California deposits and shipped a 500 pound sample of the clays direct to Theodore Haviland in France. At least two big reasons are ascribed for the erection of a plant in Los Angeles by this concern. First because of the almost prohibitive tariff on foreign made chinaware which will soon be effective and secondly because of the very large and diversified clay deposits in the vicinity.

English Potteries Working 25% Capacity

Most recent information from the pottery district of England received in the United States is to the effect that the earthenware industry is harder hit by the coal strike than any other line. Therefore, the English potteries are reported as having not less than seventy-five per cent. of its employes on the idle list.

There is no telling when the American imports of English dinnerware and hotel ware will show an increase above present receiving levels.

This will, as a matter of fact aid in a material way in creating a slightly increased demand for American ware, cancellation orders for which are lower now than for many months.

* * *

Reorganization of Tritt China Co.

Corporation papers are now in Columbus, Ohio, for reorganization of the Tritt China Co., Niles, Ohio, under the name of the Crescent China Co. Reorganization was effected and new officers and directors elected with the transfer recently of W. H. Tritt of Niles to Sebring interests at Sebring, Ohio. Newly elected officers of the company are, president and treasurer, A. O. C. Ahrendts; vice-president, D. B. Howell; secretary, C. L. Sebring; assistant secretary, C. S. Wardeska Directors, A. O. C. Ahrends, D. B. Howell, F. A. Sebring, F. H. Sebring and C. L. Sebring

* * *

Compile Data on Floor and Wall Tiles

The shapes, sizes, colors, and so forth of tiles has been, to the man not intimately acquainted with the product, always more or less of a mystery. Realizing this the Associated Tile Manufacturers have compiled data in regard to their product and have published it in book form. Almost every kind of information which could be desired by a user of tiles is contained in the booklet. It contains basic information in regard to the ingredients and processes, gradings, sizes, shapes, colors, finishes and nomenclature of the various tiles now in general use.

The publication has been issued primarily for the benefit of the users of tiles, architects, engineers and educators to give them a more thoro understanding of the process of manufacture, the proper usage and the possibilities in securing effects thru a better knowledge of the shapes, colors and characteristics of tiles.

As shown in the illustration the evolution of the various shapes and designs is clearly depicted. It is extremely interesting to notice that the oblongs, the triangular shapes, the hexagons and so forth are all the result of a very natural sequence. Any architect, not familiar with all the styles of tiles, will undoubtedly find this a great help in the designing of attractive floors and walls.

The many grades and types of tiles, together with their names, are also listed for the convenience of the user. After every tile name a complete description is given enabling the reader to at once recognize the particular tile which is being mentioned.

This booklet will undoubtedly be of great service to all users of tile, and especially for architects and engineers it will fill a want which has long been poignantly felt. No doubt the Associated Tile Manufacturers will realize the value of this work of theirs thru an increased use of their product.

* * *

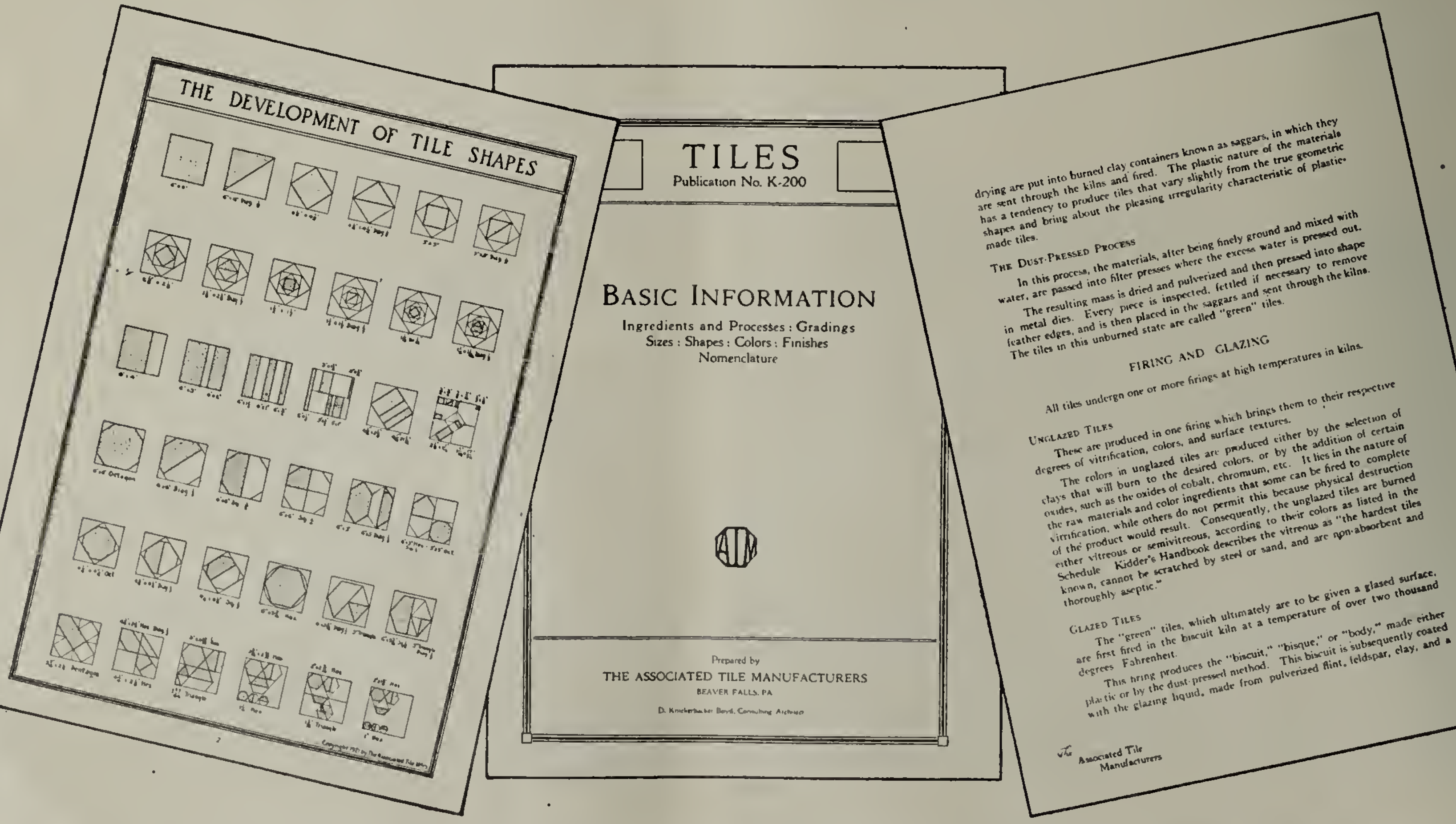
Delaware Concern To Operate in New York

The General Chinaware Corporation, New York, recently organized to operate at New York, to manufacture chinaware. R. D. Buchholtz, 15 Broad Street, represents the company.

* * *

Gives Demonstration of Pottery Manufacture

In cooperation with the Mercer Pottery Co., Trenton, N. J., John Wanamaker, New York, has been giving a series of practical demonstrations, showing how chinaware is made, at the China Salons at the New York department store. The event was announced in the form that "A potter of sixty years' experience from Staffordshire, England, will show how china is



THE DEVELOPMENT OF TILE SHAPES

TILES
Publication No. K-200

BASIC INFORMATION
Ingredients and Processes : Gradings
Sizes : Shapes : Colors : Finishes
Nomenclature

Prepared by
THE ASSOCIATED TILE MANUFACTURERS
BEAVER FALLS, PA
D. Knickerbacker Boyd, Consulting Architect

drying are put into burned clay containers known as saggars, in which they are sent through the kilns and fired. The plastic nature of the materials has a tendency to produce tiles that vary slightly from the true geometric shapes and bring about the pleasing irregularity characteristic of plastic-made tiles.

THE DUST-PRESSED PROCESS

In this process, the materials, after being finely ground and mixed with water, are passed into filter presses where the excess water is pressed out.

The resulting mass is dried and pulverized and then pressed into shape in metal dies. Every piece is inspected, fettled if necessary to remove feather edges, and is then placed in the saggars and sent through the kilns. The tiles in this unburned state are called "green" tiles.

FIRING AND GLAZING

All tiles undergo one or more firings at high temperatures in kilns.

UNGLAZED TILES

These are produced in one firing which brings them to their respective degrees of vitrification, colors, and surface textures.

The colors in unglazed tiles are produced either by the selection of clays that will burn to the desired colors, or by the addition of certain oxides, such as the oxides of cobalt, chromium, etc. It lies in the nature of the raw materials and color ingredients that some can be fired to complete vitrification, while others do not permit this because physical destruction of the product would result. Consequently, the unglazed tiles are burned either vitreous or semivitreous, according to their colors as listed in the Schedule. Kidder's Handbook describes the vitreous as "the hardest tiles known, cannot be scratched by steel or sand, and are non-absorbent and thoroughly aseptic."

GLAZED TILES

The "green" tiles, which ultimately are to be given a glased surface, are first fired in the biscuit kiln at a temperature of over two thousand degrees Fahrenheit.

This firing produces the "biscuit," "bisque," or "body," made either plastic or by the dust-pressed method. This biscuit is subsequently coated with the glazing liquid, made from pulverized flint, feldspar, clay, and a

The Associated Tile Manufacturers

Here Are Reproduced the Cover and Two Pages from the Book on Tiles Published by the Associated Tile Manufacturers.

made—he will demonstrate how beautiful dinner pieces are made from the putty-like gray mass of clay."

* * *

New York Has New China Company

The General Chinaware Corporation, New York City, has been organized with a capital of $850,000 to manufacture general ware. The company is headed by William Hardman, Charles G. Atwood and Lewis H. Rogers, New York.

* * *

Will Suspend Customary Vacation

Owing to general business conditions, the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, will omit the usual week's vacation for women at the plant this year. The plan has been operative for a number of years past, with full pay.

* * *

Resumes Manufacture of Enameled Brick

The Sneyd Enameled Brick Co., Trenton, N. J., has resumed the production of enameled brick at its plant, after a discontinuance in this line for some time. The company has been devoting its entire activities to the manufacture of high grade fire brick, and has furnished the requirements of the majority of potteries in this location. With a resumption of demand for enameled brick, this production will become an important feature at the plant, the material being of high quality. Charles T. H. Phillips is president.

* * *

F. A. Whitaker to Visit Europe

Fred A. Whitaker, general superintendent of the Keasbey, N. J., plant of the General Ceramics Co., will soon sail for Europe on a pleasure trip with Mrs. Whitaker, to be absent for about two months. He will visit Germany and other countries.

* * *

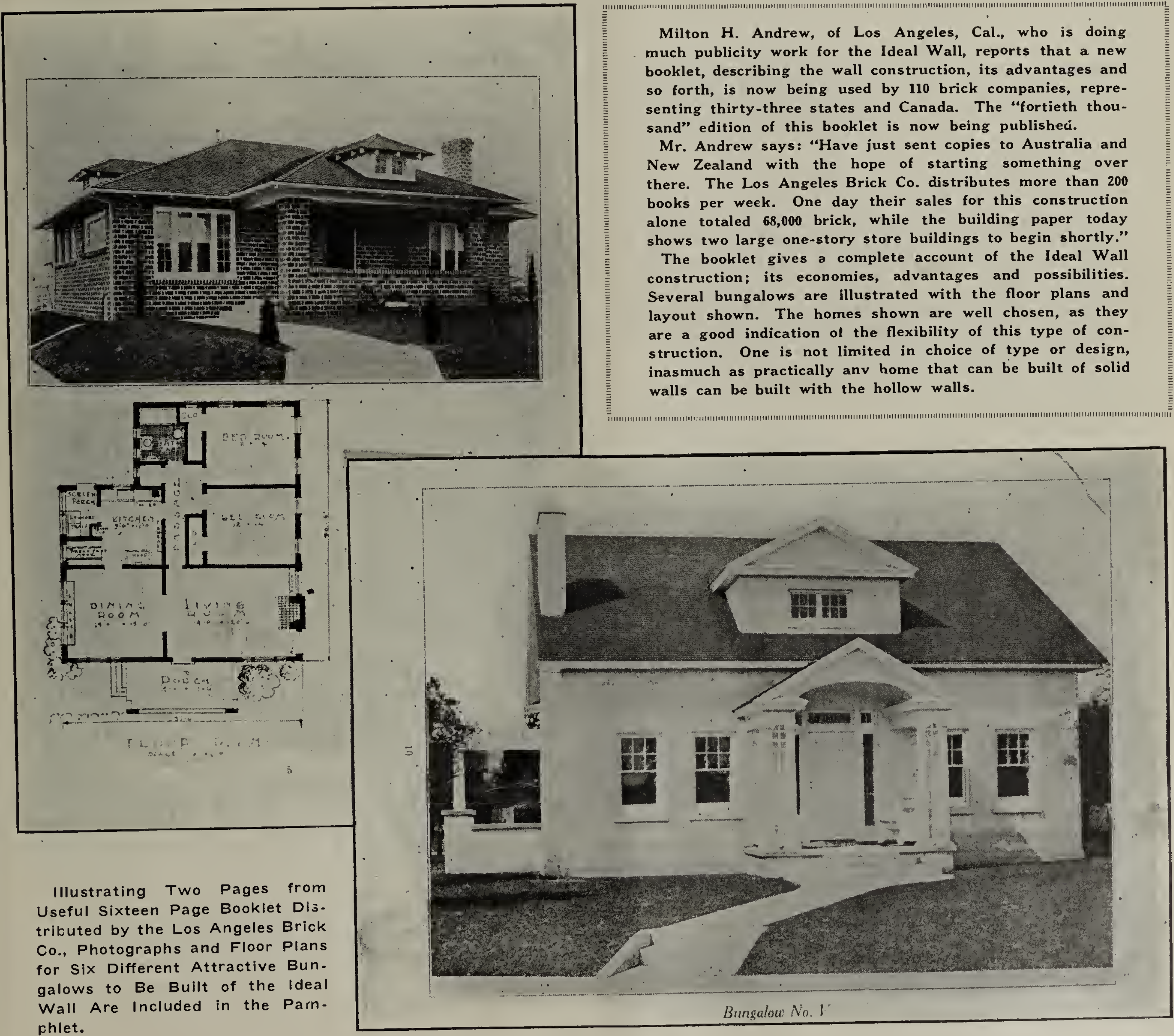
Becomes Industrial Arts School Board Member

Thomas F. Riley, manager of the Imperial Porcelain Works, Trenton, N. J., has been appointed a member of the board of directors of the Trenton School for Industrial Arts by Governor Edwards, to succeed the late Karl G. Roebling. The school has been mentioned frequently in the columns of *Brick and Clay Record*, and ranks high in ceramic circles in the state.

Milton H. Andrew, of Los Angeles, Cal., who is doing much publicity work for the Ideal Wall, reports that a new booklet, describing the wall construction, its advantages and so forth, is now being used by 110 brick companies, representing thirty-three states and Canada. The "fortieth thousand" edition of this booklet is now being published.

Mr. Andrew says: "Have just sent copies to Australia and New Zealand with the hope of starting something over there. The Los Angeles Brick Co. distributes more than 200 books per week. One day their sales for this construction alone totaled 68,000 brick, while the building paper today shows two large one-story store buildings to begin shortly."

The booklet gives a complete account of the Ideal Wall construction; its economies, advantages and possibilities. Several bungalows are illustrated with the floor plans and layout shown. The homes shown are well chosen, as they are a good indication of the flexibility of this type of construction. One is not limited in choice of type or design, inasmuch as practically any home that can be built of solid walls can be built with the hollow walls.



Illustrating Two Pages from Useful Sixteen Page Booklet Distributed by the Los Angeles Brick Co., Photographs and Floor Plans for Six Different Attractive Bungalows to Be Built of the Ideal Wall Are Included in the Pamphlet.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

How Careful Firing Saves Coal

An article appearing in a recent issue of "Factory," by A. C. Poore, gives some good data on firing methods with a view to obtaining the highest fuel value with least coal. The item reads as follows:

Intelligent firing is agreed to be one of the most effective ways of conserving coal. An understanding of the part air takes in efficient firing is, however, necessary. Air is a gas composed of oxygen, one-fifth by volume, and nitrogen, four-fifths by volume.

Any element, such as the hydro-carbon gas given off from heated green coal, having oxygen for an affinity, will cause the oxygen to leave the nitrogen and combine with its affinity. If this combining of elements takes place rapidly, the result is combustion. If it takes place slowly, it is merely oxidation.

Nitrogen, while it has no active part in combustion, readily retards burning; it is a diluent. Tho nitrogen absorbs part of the heat from the fire, it gives up the greater part of this heat while passing thru the flues and only a few heat units are wasted. This waste is so small that it is almost negligible except under conditions resulting from bad firing.

It is, therefore, necessary to have a light, level fire instead of a bank of green coal across the fire box, for hydro-carbon gas is distilled from green coal thrown on a fire, and to burn this gas, sufficient air must be present. It cannot be present in a sufficient quantity to burn all the gas given off by a charge of green coal when the coal occupies space that should be allotted to air.

Due to the immense heat value of this gas, if even a small quantity of it is carried off unburned, it results in quite a fuel loss.

Another point to be considered is that one part of carbon gas combining with two parts of oxygen will generate an intense heat, while if there isn't room in the fire box on account of a high, banked, heavy fire for two parts of oxygen to mix with each part of carbon gas, the heat will be less, and more coal will be burned.

Another phase of "intelligent firing" is the practice of using coal with as little moisture in it as possible. The reason for this should be self-evident, tho hundreds of first-class firemen continue to wet down the coal before throwing it on the fire. When this is done the fire goes thru a breaking-down process that causes lost temperature in the fire box and the escape of thousands of heat units in unburned gases.

Not every man will make an efficient fireman. But any healthy, willing, intelligent man may be trained to fire economically. He should strive to keep "cold air spots" in the fire filled; keep the fire light and level; fire slowly that all gases may be burned; and keep the coal dry.

Such firing will enable each pound of coal to produce its equivalent in foot pounds of work, to say nothing of keeping the smoke nuisance at a minimum. In any event the difference between good and poor firing will represent an appreciable percentage of all coal burned.

⁂

Digging Plastic Clays

The method of blasting ordinary plastic clays for making tile and common brick will depend on the height of the face, the method of digging, the hardness of the clay and the nature of the floor.

In developing this type of blasting, several unexpected results have been obtained. Some pits employing hand digging were having much trouble in mixing the top and bottom strata. Blasting down the face resulted not only in decreasing the cost of digging, but gave a better mixture of the clay than had been possible by the former methods.

In other pits loose boulders seriously retarded the work. Blasting not only loosened the hard clay, but materially assisted in getting out the boulders, and sending the clay to the plant in better shape.

Description of Reactions Occuring in Clay

The rate of vitrification depends primarily upon the character and the amount of fusible material present. By fusible material we mean that combination of silica, alumina, iron oxide, lime and alkali present in the clay which will produce the most fusible mixture possible. This fusible combination necessarily differs for every clay. A fire clay evidently contains not only a smaller amount of this low fusing mixture, but the fluxing aggregate also differs in its composition from the most fusible combination of a paving brick shale or a glacial material of high lime content.

According to natural laws, the first fused portion of a clay small tho it be in amount, always represents the lowest melting combination it is possible to produce. Likewise, as the temperature rises the composition of the fluxing aggregate varies. The fluxing portion of the same clay at 1,500 deg. F. differs decidedly from the one at 1,700 deg. F. It is not only greater in amount, but also it is composed of a different combination of silica, alumina, iron, lime and alkali, being richer in silica.

The fluxing mixture when taken by itself, is naturally more infusible than the mixture at a low temperature. This variable flux is called eutectic combinations by theoretical investigators. As the amount of fused matter increases in a clay it creeps and flows thru the interstices between the coarser grains of clay and finally surrounds them, at the same time filling up the pores. Thus, the apparent volume of ware decreases, and we have what is called fire shrinkage.

Much good can be done in tempering some clays by blasting the impacted pits, when in a dry condition, well in advance of the need. This permits the absorption of rain, lets the frost in deeper, and begins the processes of tempering that are later finished in the mixer or pug mill.

Clay is often found over quicksand or other soft ground where difficulty is experienced in the upkeep of tracks for cars or of roads for carts. Digging from above will largely overcome these troubles, as the cars or carts can then be handled on the surface instead of in the bottom of the pit. This substitution is made possible by drag-line or similar excavating rigs that work from above. When the clay is wet or soft, there is no difficulty in finding the buckets and working to full capacity. When the ground is hardened by drying out or freezing, it should be loosened by blasting. Practical pit trials have proved the advantages of this method of digging.

Even where the bottom is solid and is free from standing water this method is proving satisfactory. Where the drainage conditions are bad it is to be highly recommended.

When frozen or dried hard, this bank should be shot down by blasts so as to reduce the cost of shoveling. If blasted, a drag-line or steam shovel could be used to replace the hand labor.

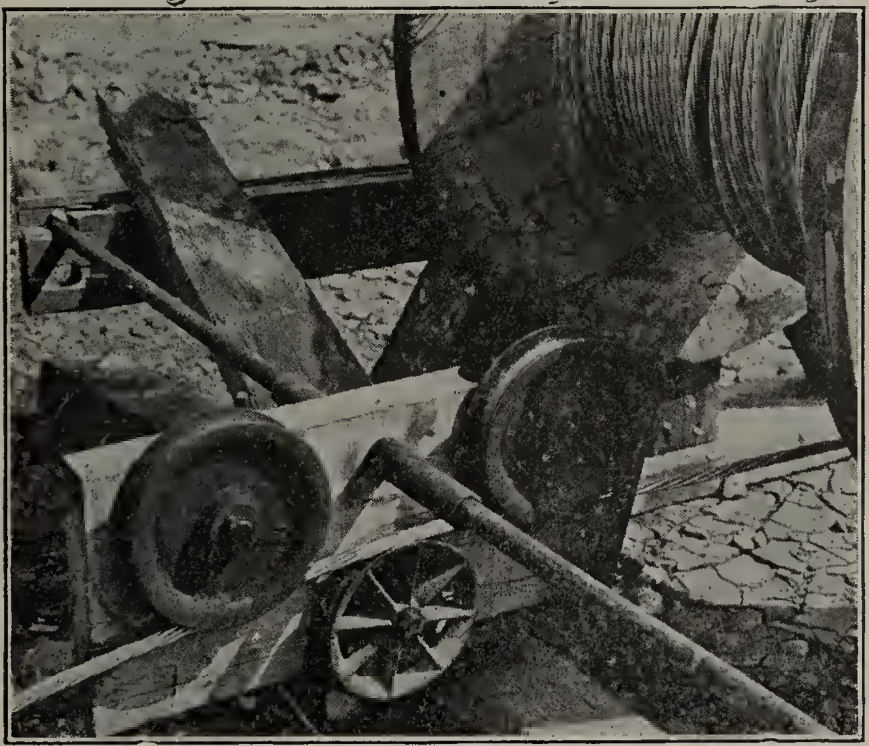
Some high-grade clays contain hard pebbles and must be spaded thin to expose the pebbles so that they can be picked out by hand. When this is necessary, blasting should not be practiced unless the clay is dry or frozen and the cut cannot be begun.

To start the work put down two or more shallow holes spaced thirty or forty inches apart, load each with from one to two cartridges of thirty to sixty per cent. ammonia dynamite, primed electrically, and fire all together. This will open up a short trench and expose ample room for the shovelers.

* * *

Taking Kinks Out of Wire Rope

Reel kinks in wire rope can be successfully removed by the simple device illustrated herewith, for preparing wire rope for whatever use it is to be put. As indicated by the illustration, the reel of rope is suspended on an axle on a timber frame so as to unwind from the bottom. In front of the reel three pulleys attached to an axled plank, as shown, constitute the straightening device.



A Very Simple Device for Straightening Out Kinks in Wire Rope. Set Pulleys As Shown and Run the Wire Over Them.

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Meet FALLING PRICES
By INCREASED EFFICIENCY
And LOWERED COST OF PRODUCTION

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Smooth, even surface that will not warp.
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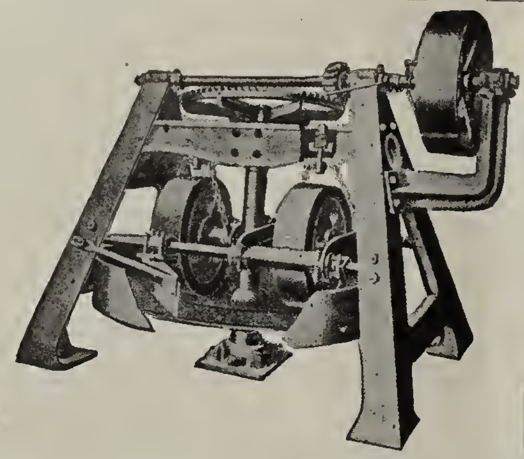

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"Make Good Belts Give Better Service"

Once on, Crescents are on to stay. A Crescent joint will outlast the most durable belt. No part of belting is punched out or weakened. Maximum strength maintained. Belt runs same as endless on pulley side. No knocking or thumping. Noiseless. Joint hugs pulley. Full power transmission insured.

Write for new Booklet W on Increasing Belting Efficiency.

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UNLOADING FOR 3 CENTS PER TON

Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

The Columbus Conveyor Co., Columbus, O.

CARS

OUR FACTORY THE LARGEST IN THE WORLD DEVOTED TO CAR BUILDING ALONE
CARS FOR EVERY MINING AND INDUSTRIAL PURPOSE
CATALOGS ON REQUEST
THE WATT MINING CAR WHEEL CO.
BARNESVILLE OHIO

The LETTER BOX

A Place Wherein Letters That Have General Interest Are Published and Commented Upon

Americans Under Handicap in Philippines

In the letter printed below conditions which the brick manufacturers in the Philippine Islands are struggling against are clearly depicted. The letter was written by A. B. Tuckholder of the Acme Brick & Tile Co., Manila, Philippine Islands, and in it Mr. Tuckholder says American manufacturers in the Philippines are slowly being stifled by cut-throat competition from Japan. Mr. Tuckholder says:

Our business—never flourishing because of a limited and unsteady demand—is dead for the present due to stagnant business conditions and competition of Japanese and Chinese products. An English firm is now selling Chinese common red brick, manufactured in Hongkong, delivered c. i. f. Philippine ports at what at present exchange rates would equal about $17 per M. Under present labor and fuel conditions brick cannot be manufactured here at that price or anywhere near it.

There are some Japanese manufacturing brick locally. They are backed by a strong Japanese firm which, in turn, is understood to be to some degree supported, subsidized or backed by the Japanese Government. They are also underbidding American and Filipino manufacturers with a view to driving them out of the market. This Japanese firm just recently secured a small order from the *United States Government.* Several Americans submitted bids. The next lowest was an American whose bid was $0.50 per M. above that of the Jap.

In the event these English, Chinese and Japanese are able to squeeze the life out of their American competition—all of whom have begun operations within the past three years with little or no backing—they will then boost prices back to the old rates of from $30 to $40 per M. for standard brick, under normal conditions. And still the U. S. Congress enacts laws requiring an American to pay income tax on business conducted under such conditions, his cut-throat competitors being exempt from that or any corresponding tax.

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Troubles of Western Manufacturers

Below is printed a most interesting letter received from Tom Hall, president of the Moscow (Idaho) Fire Brick & Clay Products Co. Mr. Hall brings forcibly to attention a situation regarding foreign competition which brick and clay manufacturers will soon have to look squarely in the face. At present the fire brick and refractories industry is most seriously affected and it will soon have to come to bat for its products against foreign encroachment. Mr. Hall's letter follows:

I notice in *Brick and Clay Record* of May 31, a few remarks on the Editor's page in regard to price cutting and coal purchase in the East and how hard it is to sell brick at such low prices, and to stock coal under the present high freight rates.

If you will kindly allow me a little space in your most valuable paper I will outline a few difficulties that the western brick manufacturer is up against.

First: During the war we paid forty-five to fifty cents per hour for labor, common brick was selling at $25 to $30 per M. We now pay in wages forty-five cents per hour and are selling common brick from $12 to $15 per M. Face brick was selling at our plant during the war for $35 to $40 per M., now they are down to $25 and $20. The price of coal that we were using during the war was $4.50 per ton, and the freight was $6.25 per ton which made a total of $10.75 f. o. b. plant not including war tax and unloading charges. Now these prices have not dropped one cent, nor has anything else pertaining to the manufacture of brick dropped since the war with the exception of the five cents per hour on labor, but we have cut the price of brick 100 per cent. in order to stimulate building, this was done with the hope that the present high freight rates would take a decline, but there is no relief in sight and a good many of the western manufacturers are being gradually compelled to close down for an indefinite period.

One would naturally think that taking the prices on brick into consideration during the war, and the prices on brick today, that there was a lot of profiteering; such was not the case, as the flower of the brick yard army was fighting in the battle fields of France, and we found that brickmaking cost fifty to seventy-five per cent. more than it did in normal times.

Second: The above building brick business is not the only hard knock that the western manufacturer is up against. The fire brick game is the sticker as during the war no foreign brick was imported into this western country, the result was that all western fire brick plants were running to full capacity and could dispose of all their ware, but since the war, in comes the English and Scotch fire brick by the hundreds of thousands into Seattle, hauled over as ballast and dumped onto our market with a small tariff of ten per cent. sold for less than we can manufacture and deliver for. We are not pessimistic but if conditions like this are allowed to exist the American manufacturer will simply have to step aside and let John Bull have the business, which is gradually throwing hundreds of clayworkers out of employment.

IN *the* WAKE *of the* NEWS

Being Brief Mention of a Host of Interesting Happenings in the Varied Fields of Clayworking

Death Claims Mrs. Hopley

Bessy Harter Hopley, wife of Frank L. Hopley, advertising manager of the Hadfield-Penfield Steel Co., and treasurer of the Hopley Printing Co., died June 15, after an illness of nine weeks. Thru her kindly disposition and charming characteristics, Mrs. Hopley made herself beloved wherever she went. Besides her husband and other close relatives, she leaves a host of friends who will mourn her death.

Southern Brick Manufacturer Dies

After an illness of only six days John W. Reagan, general manager of the Johnson City (Tenn.) Shale Brick Corporation, died at his home at Johnson City on May 13. Mr. Reagan began the construction of the Johnson City plant in 1919 and spent almost his entire time in perfecting the workings of the concern. He is survived by his widow and three daughters.

W. F. Rochow Talks to Engineers' Club

W. F. Rochow, of the Harbison-Walker Refractories Co., was the principal speaker at the May meeting of the Engineers' Club of the Youngstown district at Youngstown, Ohio.

Col. Orton is Chamber of Commerce Head

Col. Edward Orton, Jr., of Columbus, Ohio, a well known ceramic engineer and a manufacturer of pyrometric cones, has been elected president of the Columbus Chamber of Commerce, succeeding Edward T. Tice. Col. Orton is one of the best known authorities on ceramic engineering and previous to his enlistment in the U. S. Army during the World War was connected with the ceramic department of the Ohio State University.

Leschen Wire Rope Is Dependable

When you buy Leschen Wire Rope you are not experimenting, for its ability has been proven by its service record.

For use on cranes, cableways, derricks, excavators, steam shovels and other heavy duty equipment, we recommend HERCULES (Red-Strand) Wire Rope, because its unusual durability enables it to work with economy under such conditions.

(Established 1857)

A. Leschen & Sons Rope Co.
ST. LOUIS
New York, Chicago, Denver, San Francisco

It's the Knowing How

A poor cook can spoil the most excellent food. It's the knowing how that determines the final quality.

Caldwell Cypress Tanks are finished products par excellence and backed by the "know-how" of over thirty years' experience. The fine materials of which they are made are not in themselves sufficient to give maximum strength, durability and tightness. It is the training and thoroughness of expert and experienced tank builders that have established for all Caldwell Tanks their enviable reputation.

Write for Catalogue

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2380 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

ORIGINAL Boss SYSTEM **Boss Ten-Hour Dryer** ORIGINAL Boss SYSTEM

Brick and hollow ware dried in TEN HOURS with either WASTE HEAT or EXHAUST STEAM. One-third less cost to build—two-thirds less cost to operate.

Boss System of Burning

50% less coal consumed and 50% less time required in burning each kiln. Less kilns required to meet a certain given capacity than when burning the old way.

Dryers and kilns designed and built—write us regarding your drying and burning difficulties.

ORIGINAL Boss SYSTEM **J. C. Boss Engineering Co.** ORIGINAL Boss SYSTEM
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B G STANDARDIZED MATERIAL-HANDLING MACHINES

Barber-Greene-Co
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Makers of the original B-G Standardized Belt Conveyors. B-G Self-Feeding Bucket Loader.

PULSOMETER STEAM PUMP

Will keep your pit free from water. Pumps continuously without attention or adjusting. Handles any fluid up to 40% solid when agitated and is particularly suited to Clay Plant needs.

NEEDS NO LUBRICATION!
Ask us for proof of performance

PULSOMETER STEAM PUMP CO.
Executive Offices, 224 W. 42nd St., New York, N. Y.
Distributors in all principal cities

RICKETSON'S YOU CAN'T FADE 'EM MORTAR COLORS

If they are colored with Ricketson Brand
Mortar Colors
Home builders demand a beautiful color with their brick. Ricketson's colors give brick charm, freshness and warmth in appearance.
40 years proves their permanency.
For Brick, Mortar, Cement, etc.
RICKETSON MINERAL PAINT WORKS
Milwaukee, Wisconsin

BRISTOL'S RECORDING PYROMETER

tells the workman at a glance just what the temperature conditions are now, what they have been, and in what direction they are leading. With this knowledge he can readily obtain close regulation—and even inexperienced workmen can do better work.

Get copy of Bulletin AE-291

THE BRISTOL COMPANY - Waterbury, Conn.

They Do Produce Results

We refer to

Those little ads you have noticed in our Classified Ad Pages.

It is the decision of concerns who have used them. Try one.

Brick and Clay Record

He is now engaged in manufacturing cones at 1538 North High Street. He has aways taken a deep interest in civic affairs and his election to the presidency of the Columbus Chamber of Commerce is in recognition of his services in that direction.

J. B. Oberly Taken Down With Paralysis

James B. Oberly, the largest brick manufacturer in Wilmington, Del., is critically ill, as the result of a stroke of paralysis, sustained a few days ago. He is 65 years of age and has kept very active.

Visit Columbus On Business

Edward T. Mickey, of the Orrinoco Supply Co., of Winston-Salem, N. C., and Ralph Sunderland, of Sunderland Bros., Omaha, dealers in clay products, who represent the Columbus Fire & Face Brick Co. in their respective territories, were recent business visitors in Columbus.

Visit C. B. M. A. Headquarters

R. L. Mernagh, of the Alton Brick Co., St. Louis, Mo., and Mrs. Mernagh, were visitors at the Common Brick Manufacturers' Association of America, Cleveland, Ohio, headquarters, on their way home from the East recently.

Adolph G. Keller, of the Fort Wayne Brick Co., was a visitor at the Cleveland, Ohio, headquarters of the Common Brick Manufacturers' Associations of America lately.

Building in South Awakening

Gradual resumption of the building program in the South is noticeable, Paul Morrison, manager of the Decatur Brick Co., of Albany, Ala., says. Mr. Morrison has just recently acknowledged the receipt of an order for a quarter million brick, and says: "The increase in building is not over-rapid, but, on the other hand, seems to be gradual and substantial."

Building 100,000 Capacity Plant

Work is rapidly going ahead at the new plant of the Acme Brick Co., at Perla, Ark., to make this unit ready for production in August. R. G. Smith, plant manager writes the following about the new plant:

"We are building a first half of a 100,000 capacity face and fire brick plant. This plant will be ready to commence operations sometime in August and will have an initial capacity of 50,000 brick.

View of Part of the 100,000 Capacity Face and Fire Brick Plant Being Built at Perla, Ark.

"The plant arrangement is different from anything that I have ever seen and is only possible by means of grouped drives and electric motors. The kiln equipment will consist of twelve thirty foot round down draft kilns, arranged with four kilns on each stack, but with the stacks divided so that in effect, each kiln has a separate flue.

"Take it all the way around, this will be one of the best plants in the country able to operate on minimum cost basis and producing the highest grade of refractory wares, as well as a full line of light colored face brick."

To Build Flower Pot Plant

Pottery, flower and lead pots are to be manufactured on a large scale in Richmond, Cal., it became known recently when a San Francisco wholesale florist firm purchased a site for a plant. The product is to be shipped thruout the state.

Architects Back "Build with Brick" Campaign

Architects and builders in Los Angeles, Cal., have been inoculated with the spirit of better home building thru the more extensive use of face brick. The organization at Los Angeles is making plans to actively co-operate with the movement progressing thruout California to use face brick in residence construction. The interest displayed by the leading architects in the "better home movement" in southern California has resulted, manufacturers, say, in an increased demand for better grades of brick. A survey of building permits issued in and around Los Angeles reveals the fact that an ever-increasing number of homes are being built of brick.

The Quakertown Fireproofing & Pottery Corporation has been incorporated in Delaware with a capital of $1,000,000, it is reported.

Reduces Brick Prices

Frank J. Craycroft, resident of the Craycroft-McKnight Brick Co., Fresno, Cal., has announced a reduction of $2 per thousand for building brick effective on all new jobs. The action, it was announced, is taken to further stimulate the move on the part of building interests in Fresno to bring about a revival of building.

The company's action follows closely on that of Brickmasons' union No. 1, in agreeing to a proposal of the Craycroft-McKnight Brick Co. that provided for a reduction in the price of brick to follow a wage reduction. According to Craycroft a number of proposed building operations in the city have been held up awaiting an indication of revision downward in the cost of building material and the action of both labor and manufacturers will tend to promote the immediate launching of new construction.

Building at Standstill in San Francisco

Inactivity still prevails in the building trades situation in San Francisco, Oakland and Alameda County. While very few contractors are continuing operations the majority of all construction remains suspended and no brick or other materials are being bought, sold or delivered. The shut down of this large market for building materials where a large amount of construction was in progress is having an appreciable effect on the building material and brick men. Many believe however that the end of the controversy is in sight and that operations on a normal scale will be resumed within a week or two. Others take a more pessimistic view of the situation. The Builders' Exchange of San Francisco and of Oakland is still dickering in holding out "another chance" to union men to work on building operations and failing in getting a response the exchanges declare that labor will be imported from the East. The fact is to date however that all building is at a standstill.

Conditions in Los Angeles and the Southern part of Cali-

Electric Motors and Generators
for all requirements of the
Brick and Clay Industry

■ ■ ■

BURKE ELECTRIC CO.
MAIN OFFICE AND WORKS
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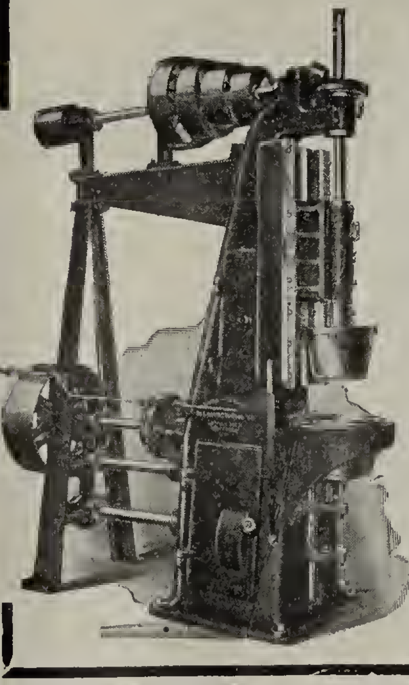
KANSAS CITY: W. T. OSBORN

Why Don't You Do Something About It!

If you are a manufacturer of Flower Pots, Nozzles, Insulators, etc., and due to your machinery you are not getting quality and uniformity in your ware, WHY DON'T YOU WRITE TO SOMEONE WHO CAN HELP YOU?



The Baird Machine & Mfg. Co. would be glad to hear from you and will furnish all information without obligation. Send a sample of your clay with inquiry.

THE BAIRD MACHINE & MFG. CO.
409-11 Jefferson Avenue E.
DETROIT, MICHIGAN

The Invincible Barrow

This favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

Write for prices.

TORONTO FOUNDRY & MACHINE CO.,
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PEABODY COAL COMPANY
FOUNDED 1883
OPERATING 36 MINES WITH ANNUAL CAPACITY OF
18,000,000 TONS

WE MINE AND SELL GOOD COAL

GENERAL OFFICES:
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BRANCHES:
ST. LOUIS, OMAHA, PEORIA, CINCINNATI, KANSAS CITY, MINNEAPOLIS, DEADWOOD, S. D., SPOKANE, WASH., SHERIDAN, WYO.

"PEABODY FOR SERVICE"

fornia are however "booming," the brick and material yards being extremely busy and the new clay industries in that part of the state doing even better than had been expected so soon after their initial establishment.

Purchases Sixty-one-Acre Track

The Tuttle Brick Co., Middletown, Conn., has recently acquired sixty-one acres of land, it is reported. This will probably be used in the manufacture of brick.

New Company to Manufacture Brick and Tile

Incorporation of the Federal Brick & Supply Co., of Wilmington, Del., has been announced. The concern will manufacture brick, tile and so forth. It is incorporated for $500,000.

Buys Brick Plant

J. H. McKenzie, of Augusta, Ga., has purchased the Hollingworth Brick Co.

Georgia Clay Industry Growing in Importance

The ninth annual report of the commissioner of commerce and labor for the state of Georgia, just off the press, shows that the brick, tile, sewer piping, cement and clay products industries of that state are increasing in importance every year and by reason of the rapid growth of the cities and towns of the state will continue to be more in demand. The records of this industry for the year ending December 31, 1920 show 109 plants in operation with a capital of $8,975,626.73. The amount spent for machinery and repairs for the year was $458,145.70 and the amount paid to officers $422,704.55. The value of the raw material of this industry for the past year has been placed at $3,996,236.63 by the department. The department says that 4,475 were employed last year and the amount paid was $2,695,924.28. The value of all manufactured products has been placed at $8,520,596.13 by the department.

The report states that the clays of Georgia constitute one of its inexhaustible mineral resources. In the southern part of the state the Cretaceous and Tertiary sedimentary clays are found, and in the Piedmont plateau and northwest Georgia are found the alluvial and residual clays. The report says that chromite, so far as known at present, is found in only two counties for commercial quantity, that of Towns and Troup.

Streator Brick Again Starts Work

After a shutdown the three months the Streator (Ill.) Brick Co. has again started operations. When the plant was shut down there was on hand a large reserve of brick, which has very nearly been exhausted. The plant is being operated at full capacity, seventy-five men being employed. It is hoped that business will continue in sufficient volume to warrant continuous operation.

Think Public Buildings Best Hope

Brick salesmen in Indianapolis are turning their attention for the most part to construction of a more or less public nature. They say this is the big field in Indiana this year. There is virtually no industrial work being done, tho the volume of business buildings and schools and public construction is holding up well. Announcement has just been made that the board of county commissioners at Mt. Vernon, Ind., intends constructing a memorial building which will cost approximately $200,000. Brick will be the main building material. Officials of the American Trust Co. at South Bend, Ind., are contemplating a brick bank building that will cost an equal amount.

Organize Drayton Tunnel Kiln Co.

The Drayton Tunnel Kiln Co., Indianapolis, Ind., has been incorporated under Delaware laws, with capital of $300,000 to manufacture tunnel kilns for the ceramic industry. The company is headed by William Drayton and Walter J. Kissler, Brazil, Ind.; and E. Edward Dean, Indianapolis.

Clergymen Settle Labor Disputes

According to reports received there by the Associated Building Contractors, ministers have been called on in both Terre Haute and Evansville, Ind., to settle difficulties between trades and contractors. This is the first time in the history of organized labor in Indiana, that the clergy has been called on to settle difficulties.

Heat Causes Eruption of Brick Roads

Reports have been coming into the highway department of the Indiana Highway Commission concerning explosions of brick roads and streets. Several spots in the Lincoln highway near Goshen, Ind., it is said were blown up recently because of heat expansion and some streets and street intersections in Terre Haute were damaged in like manner because of lack of expansion joints.

Brazil Clay Plays Host to Architects

The Brazil Clay Co., at Brazil, Ind., recently were hosts to several Indianapolis and Terre Haute architects at a luncheon at the plant and a tour of the entire establishment. The Indianapolis architects made the trip in a special car that was taken to a point beyond Brazil nearest the plant.

Wm. M. Zeller, president, W. J. Snyder, secretary and treasurer, W. A. Laverty, sales manager for the Brazil Clay Co., and a number of Brazil business men, with a flock of autos, greeted the architects as they alighted from the car, and whisked them to the brick plant, where a wonderful old-fashioned harvest dinner awaited the visitors.

The largest storage shed, spick and span, tastefully decorated with banks of flowers and gracefully draped with festoons of bunting had been transformed into an inviting dining hall. About the shed for its whole length on both sides artistic panels of brick had been laid up out of the various brick manufactured by the company. This display was the subject of much interest and favorable comment. Another display that attracted the architects had to do with the new method of laying brick, whereby it is possible to obtain a hollow wall and cut construction costs considerably.

Next came the plant inspection. The journey began at the mine tipple, where the fire clay is raised from depth of 110 feet.

Step by step the architects were shown the complete process of the manufacture of face brick, from the pulverizing of the raw clay thru the molding, the drying and the kiln-burning stages until it comes out a finished brick and is loaded down in straw for shipment. The city-like appearance of the twenty-eight modern down-draft kilns, covering an area of five acres, opened the eyes of the visitors as the plant superintendent, C. A. Hill, explained to them that under the entire area there is a network of tunnels and roaring furnaces, producing in the upper portion of the kilns a heat of 2,200 degrees Fahrenheit. Each kiln requires an average of 75 tons of coal to the burn, which takes from 10 to 14 days, according to the kind of brick desired. It was news to most of the crowd that the various colors obtained in brick is thru different methods of firing. Many had been of the impression that the varied colors were produced by the use of chemicals.

Your Production Costs Mr. Clay Plant Mgr. Are Best Cut By Accuracy in the Mixing of Your Clay

THE SCHAFFER POIDOMETER is a friend you can trust with your mixing problems. Unlike the pug-mill man it is unable to make mistakes. It works continuously, never "lays off," insures an even flow of perfectly tempered clay at all times (1½ to 21,000 lbs. per minute).

If you have never sensed that feeling of satisfaction which comes from relief over mixing problems, let the SCHAFFER prove its worth to you.

At least write for information. No obligation.

Schaffer Engineering & Equip. Co.
Peoples Bank Bldg., Pittsburgh, Pa.

The Marion "Rust" Special Feeder Mixer

is designed especially for hard, rough usage in the brick plant. It will speed up the efficiency of your plant, keep your offbearers always busy and cut your costs to the bone. It will increase the percentage of perfect ware by giving a perfect uniform mix to your clay at all times.

To install a MARION "RUST" SPECIAL means the saving of money because it pays for itself in a short time and then keeps on saving for you.

Let us send you information concerning our complete line of clay plant equipment.

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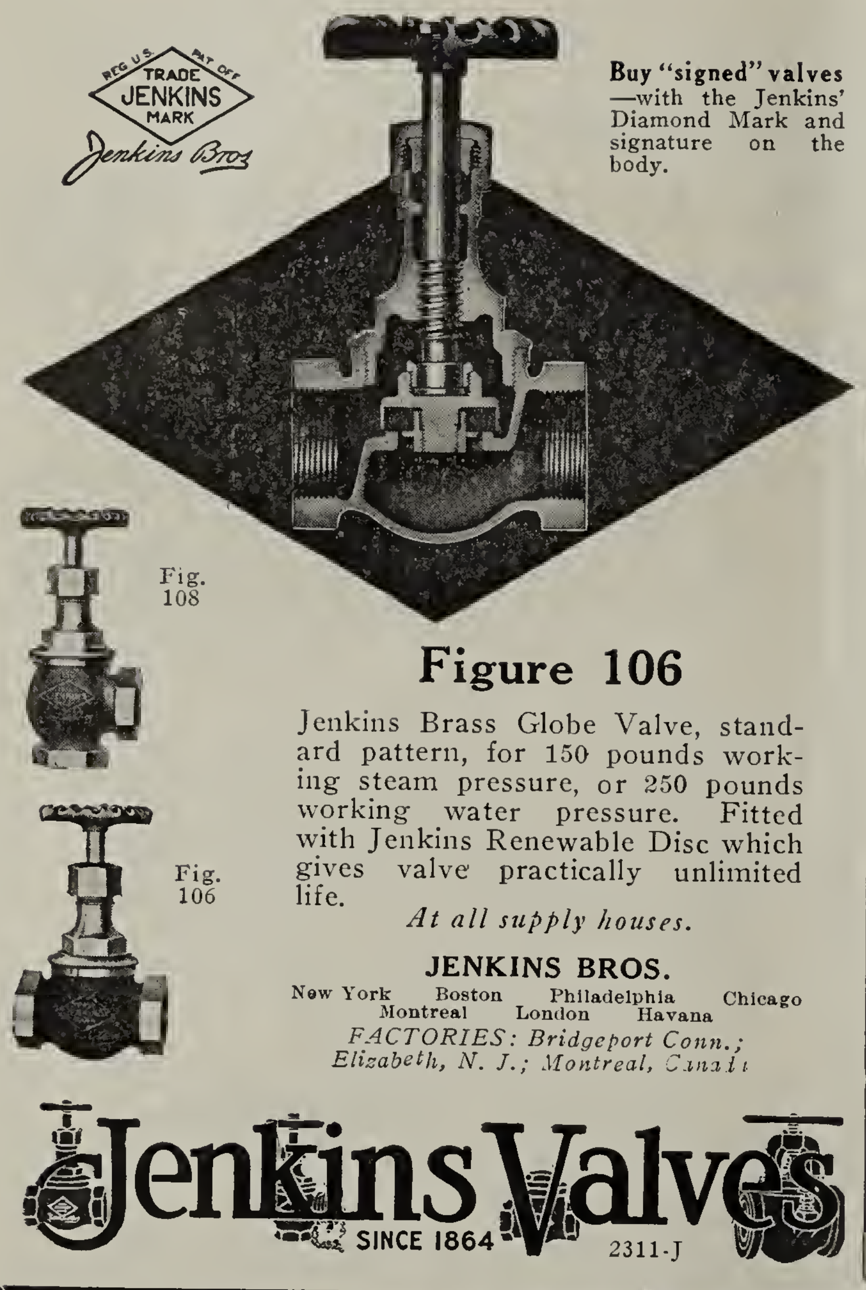


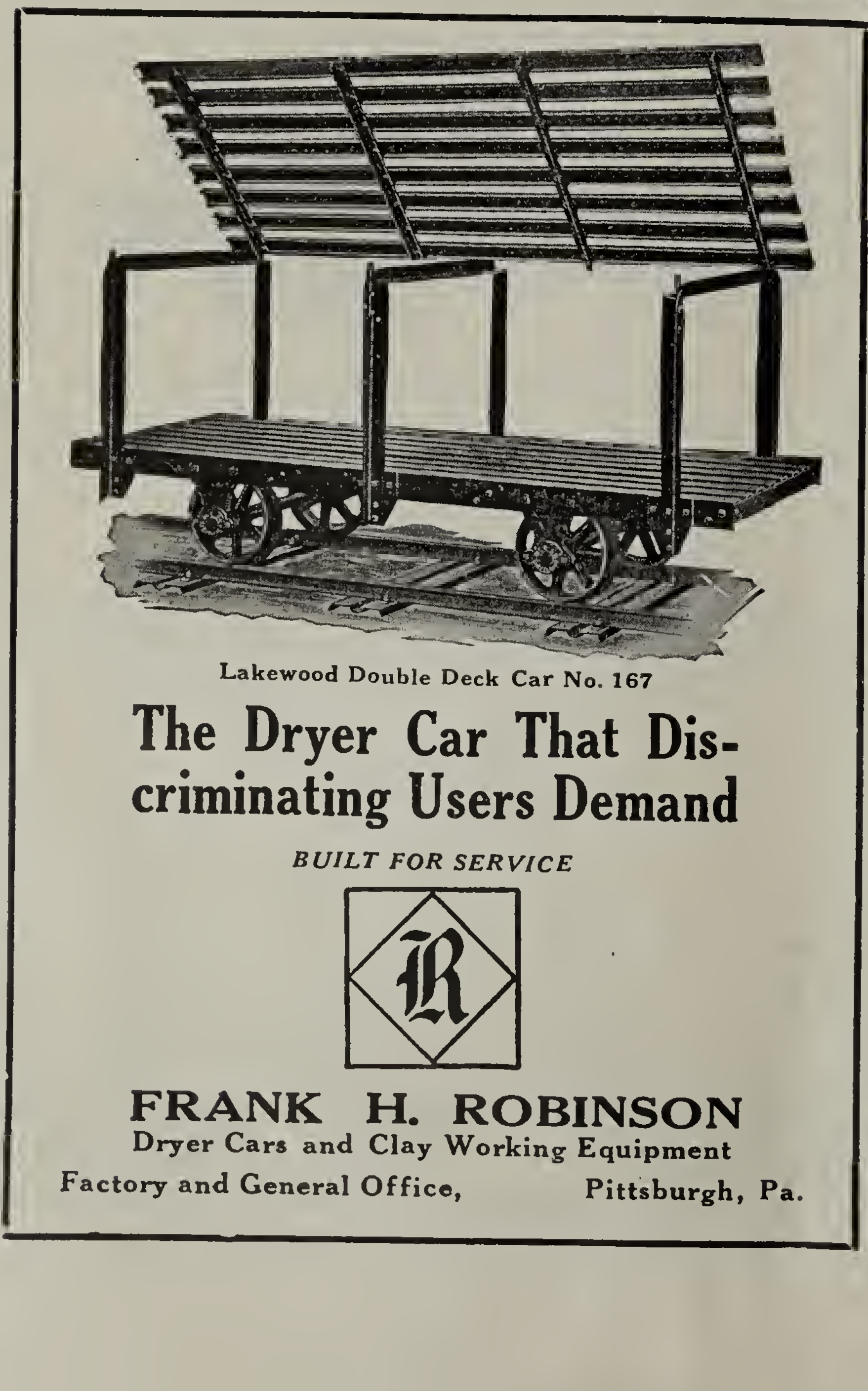
Buy "signed" valves —with the Jenkins' Diamond Mark and signature on the body.

Figure 106

Jenkins Brass Globe Valve, standard pattern, for 150 pounds working steam pressure, or 250 pounds working water pressure. Fitted with Jenkins Renewable Disc which gives valve practically unlimited life.

At all supply houses.

JENKINS BROS.
New York Boston Philadelphia Chicago
Montreal London Havana
FACTORIES: Bridgeport Conn.; Elizabeth, N. J.; Montreal, Canada



Lakewood Double Deck Car No. 167

The Dryer Car That Discriminating Users Demand

BUILT FOR SERVICE

FRANK H. ROBINSON
Dryer Cars and Clay Working Equipment
Factory and General Office, Pittsburgh, Pa.

Ships 15,000 Pounds of Tile Samples by Mail

The Adel (Ia.) Clay Products Co. is a firm believer in advertising thru the mails. Besides a considerable amount of literature the company sends out quantities of sample building block of every description. One of the newest ideas of that concern is a block designed to take a kellastone pattern finish without the use of lath and approximately a thousand samples of this block have been mailed out recently. This shipment weighed close to 15,000 pounds.

Leavenworth Company Begins Work

The newly erected brick plant at Leavenworth, Kan., has begun work on a part-time basis, and it is expected will begin capacity production early in July. The plant has been under construction for some time and new machinery has been installed. The plant will be operated by natural gas instead of electricity, as originally planned, as it has been unable to obtain power from the local company.

Find High Grade Clay at Wichita

Several clay beds have been discovered in the vicinity of Wichita, Kan. The clays have been tested and will make high grade pottery and brick, according to A. B. Reeve, a farm land dealer there. Mr. Reeve sent 800 pounds of clay consisting of samples of several beds, to be tested. These were made into pottery and brick under official supervision. Samples of the pottery and brick were returned to Mr. Reeve with an analysis and a statement that the clays were of high grade.

Publicity for Hollow Tile

An interesting short bit of publicity on hollow tile as a high class building material appeared in the Louisville (Ky.), Herald, of June 20, having been written expressly for the paper by J. T. Howington, of the Coral Ridge Clay Products Co., who endeavors to tell the layman just a little something of what hollow tile is and what it is used for.

Brick Manufacturer to Visit Europe

K. B. Grahn, president of the Louisville (Ky.), Fire Brick Works, is planning to leave Louisville about July 10 to 15, for a visit to Europe, planning to be away three or four months and visiting Germany, France, Italy, Belgium and other points, before returning to Louisville. Mr. Grahn just a few months ago returned from a trip to the South Pacific.

Kentucky Coal Freight Rates Raised

Effective June 16, the increase in freight rates on coal from all Kentucky mines to Louisville and Cincinnati, New Albany and Jeffersonville, Newport, Covington and other river towns, added many dollars to freight costs, and will aid in holding up prices of lime, cement, brick, hollow tile and general building supplies. The big shippers protested before the Interstate Commerce Commission but the latter refused to suspend the increase. This increase affects all grades of Kentucky coal, and coals from West Virginia, Virginia, and Tennessee.

The increase ranges from eight cents a ton on the best prepared coals to 33½ cents a ton for Eastern Kentucky screenings, mine run from East Kentucky carrying an increase of twenty-one cents, and from Western Kentucky, fifteen cents a ton.

Builds Houses in Spare Time

Andrew Hillenbrand, of the Progress Pressed Brick Co., Louisville, Ky., reports that he is taking advantage of the dull period to build a few houses on the Oak Street car line, at Kentucky Street, where he owns some fifty or sixty lots. One is completed, another starting, and two more to start shortly, while he plans to start work on six more before snow falls. In discussing this movement he said:

"No one can build houses any cheaper than we can. We've got the land. I've had it for years. We've got our own brick, and we are using some of our plant labor that we would not be able to keep busy regularly otherwise. We trade brick in a lot of cases for carpenter work, plastering and other labor, with the result that we can put up houses at a minimum cost. We plan to sell them, but even if we held them at present rentals, we would get a good return on investment, and at least it gives us something to do."

Will Stay Closed During 1921 Season

The yard of the Saco (Me.) Brick Co., the only plant of the kind in York county, will not be operated during the present season, it is announced by the owners. This will be the first time since the yard was opened, seventy years ago, that no brick have been burned at Saco.

Making Extensions to Increase Production

The Queen City Brick & Tile Co., Cumberland, Md., has work under way on a number of extensions and improvements in its plant for increased production and operating facilities. The company was founded by the late Mayor Warren C. White and recently was acquired by new interests, headed by Henry J. Glick, now president of the company. The capital has lately been increased from $100,000 to $200,000.

Gets Massachusetts Charter

The Bay State Brick & Stone Co. of Haverhill, Mass., has received a Massachusetts charter authorizing a capital of $200,000. The incorporators are George L. Baldwin of Worcester, Joseph D. Curtis of Haverhill and Gertrude Cheyne of Roxbury, Mass.

Report 40 Per Cent. Drop

Dealers in Western Massachusetts are quoting common brick at $18 per thousand, as against $25, which was the prevailing price a year ago. The reduction, Wallace A. Howes, a Northampton manufacturer, points out, is made possible by reductions in labor costs; fuel and supplies remaining about the same as last year.

New Company To Make Brick

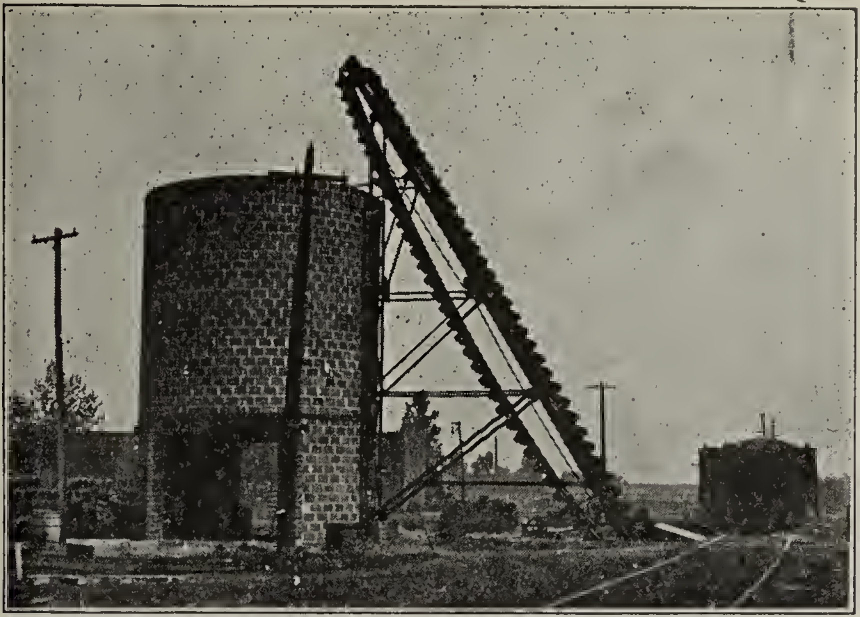
The Adamantex Brick Co. of New England, Inc., Salem, Mass., has been formed under state laws with a capital of $400,000 to manufacture building brick. The company is headed by Walter N. Stiles and John R. Honors, Swampscott, Mass.; and Frank S. Perkins, Salem. It is understood that the company will be affiliated with the Adamantex Brick Co., of New York.

Will Move to New Offices Soon

The Brick & Supplies Corporation, of Lansing, Mich., expects to occupy its new offices and warehouse in a short time. The buildings are nearly completed and the Pere Marquette Railroad is laying the branch track.

Montana Company Gets Lower Freight Rates

Reductions in freight rates on the product of the Great Falls (Mont.) Brick & Tile Co. will enable the company to compete with Denver, Col., plants in the northern Wyoming markets. The hearing was held at Great Falls a year ago, and notice



55 Tons of Lump Coal Unloaded In 50 Minutes

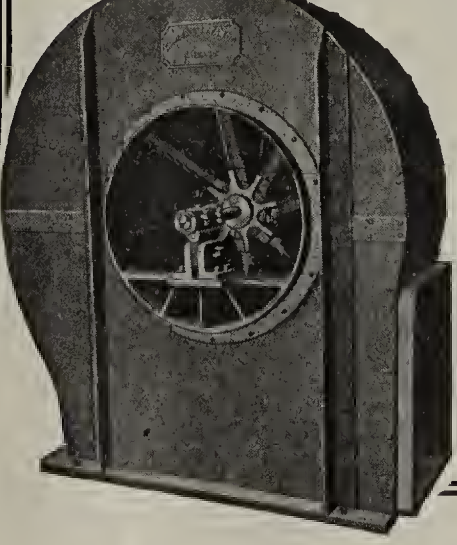
That is what a Sunbury Automatic Car Unloader does in filling a coal bin for the Krick-Tyndall Co., Manufacturers of Tile and Blocks, Decatur, Ind.

Think what it means to unload a car of coal, this day of car shortages and labor scarcity, in approximately one hour. It's real ECONOMY as well as co-operation in solving the great railroad difficulties.

The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio



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Speed and Economy

"Garden City" Steel Plate Fans
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We can solve it!

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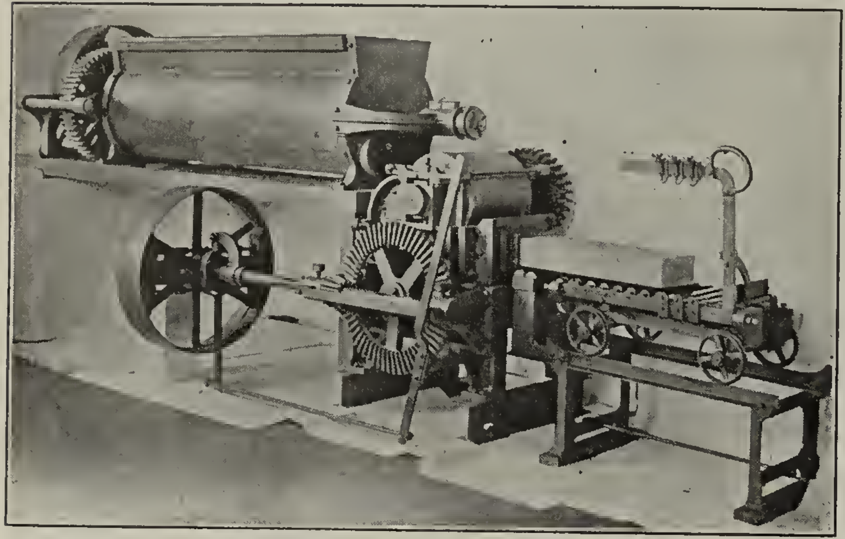

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From Laminating Clay Surface Clay
Short Bonding Clay Fireclay or Flint

This is not a DREAM, HOT AIR or a TOY, but the MOST simple, economical and practical unit of machinery on the market.

Number I Unit as shown has capacity of 10 to 20 Thousand. Larger units are furnished with simple automatic cutter, guaranteed.

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Bulletins on Request

THE STEVENSON CO.
Wellsville Ohio

of the reductions, to take effect July 7, have just been received. The reductions range from twelve to twenty cents per hundred and open up a big new field for the Great Falls Brick & Tile Co.

Increases Capital Stock $450,000

B. F. Drakenfeld & Co., 50 Murray Street, New York, manufacturer of oxides and chemicals for ceramic manufacture, has filed notice of increase in capital from $350,000 to $800,000.

Brick Company Increases Capital

The Long Island Brick Co., 280 Madison Avenue, New York, specializing in the manufacture of common, face and Colonial brick, has filed notice of increase in capital to $800,000. The plant is located at Farmingdale, L. I.

Establishes Supply Yard at New York

The Athens Brick, Lime & Cement Co., operating a brick manufacturing plant at Athens, N. Y., has arranged for the establishment of a new supply yard at the foot of East 125th Street, New York. The company has opened local offices at the same location.

Strike Fails, Men Go Back to Work

The strike at the plant of the Atlas Brick & Supply Co., Hudson, N. Y., which had been in force since June 1, has been settled and all of the 500 employes are back at work. Agitators for higher wages caused about 200 to quit work. The owners of the plant issued an ultimatum to the men to "work or quit." The men decided to work.

Buffalo Brick Men Charged With Fixing Prices

Brick manufacturers in Buffalo, N. Y., have been under fire of the Lockwood Legislative Committee for some time, and have been practically charged with price fixing. No brick manufacturers have as yet been indicted, but the counsel for the investigating committee, Samuel Untermyer, is working toward that end. If any clay products manufacturers have been banding together for the purpose of "fixing prices," which is still to be proven, it will undoubtedly be a good thing if the committee succeeds in uncovering the combination.

John Baker Goes with Columbus Builders Supply Co.

John Baker, formerly sales manager for the brick department of the Hocking Valley Products Co., of Columbus, Ohio, has joined the staff of the Columbus Builders Supply Co. and will be in charge of the brick and clay products divison of the business.

Finds Signs of Improvement in Building

David Lehman, assistant general manager of the Ironclay Brick Co., of Columbus, Ohio, has returned from a trip to Detroit and Toledo where he looked over the building situation. He did not find very encouraging factors in either city but there are signs of improvement.

Ohio Coal Market Steady

Little change has taken place in the coal situation in Ohio and West Virginia territory. Due to a large tonnage being shipped to the lake trade, there is an oversupply of screenings with the result that prices are rather low. Mine-run is selling at about the same levels as formerly, ranging from $2 to $2.75 per ton. Lump and prepared sizes are selling around $3 to $3.50 in practically all of the fields except smokeless. Mining operations are not increasing to any appreciable extent.

Hocking Valley Plants All Busy

M. M. Morrow, sales manager of the Hocking Valley Brick Co., and the Nelsonville Brick Co., of Columbus, Ohio, was called to Detroit towards the latter part of June on business. The companies he represents manufacture both pavers and hollow tile. All of the plants, located at Logan and Nelsonville, Ohio, are in operation.

Demand for Buffs and Grays Steady

W. T. Matthews, sales manager of the Claycraft Brick Co., of Columbus, Ohio, has returned from a business trip to Detroit and Pittsburgh, where he looked over the situation. He reports a good steady demand for buffs and grays and the plant at Shawnee, Ohio, is being operated on full time turning out these varieties. The Groveport plant of the company has not yet been placed in operation.

Output Increased 500,000 in Month

The building industry's revival has been reflected at two brick plants in Columbus, Ohio. At one plant in the New Philadelphia, Ohio, section the output in thirty days increased a half million brick. Work will be started in a few days on construction of the Midvale plant of the Canton Brick & Fireproofing Co. The Canton plant of the company has a daily output of 40,000 brick.

Massillon Refractories Elect Officers

W. A. Dielhenn of Massillon, Ohio, was elected president and general manager of the Massillon Refractories Co. near East Greenville, Ohio, at the annual stockholders meeting held recently. E. B. Prentice, was named vice-president; secretary and assistant treasurer, H. F. Dielhenn. Plant operations will be in charge of Mr. Prentice. In addition to the officers the board of directors includes C. P. L. McClain, H. L. McLain, F. L. Griffiths and F. F. Taggart.

Drain Tile Men to Hold Important Meeting

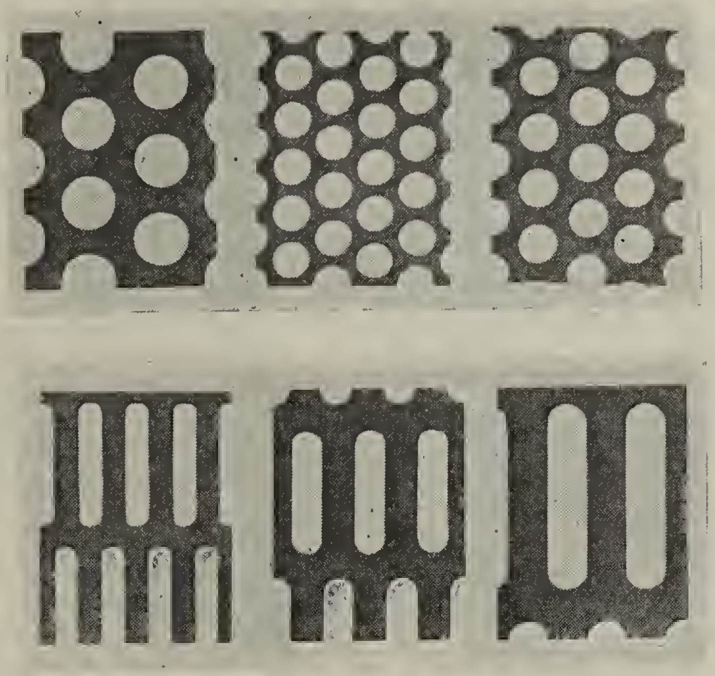
The regular quarterly meeting of the Ohio Drain Tile Association, will be held in July, probably in Findlay, Ohio. The exact date for the meeting has not been set but will be decided by the executive committee consisting of Leo Childs of Findlay, W. H. Lewis of North Baltimore and W. P. West of Columbus. This meeting will be one of the important ones as it will be preliminary to the opening of the drain tile season. Prospects for a good business in drain tile are good, according to manufacturers who have canvassed the situation.

Labor Troubles Shut Down Plants

All of the manufacturing plants of the Continental Clay Co., which has headquarters in Canton, Ohio, and a branch office in Columbus have been closed down because of labor troubles. Recently the company put into effect a new wage scale reducing common labor from forty to thirty cents per hour and the men at the various units were not satisfied. Consequently the four plants were closed and steps are being taken to employ other men at the new wage levels and open around July 1.

The Continental Clay Co., according to Warren B. Ferris, vice-president will broaden its line of clay products materially under the new wage scale. The plant at Salineville, Ohio, which has been making 8x8x16 hollow tile will also make 5x8x12 glazed tile. The large plant at East Greenville, Ohio, which has been making 5x8x12 shale hollow tile will in the future make a line of fireproofing in addition to the hollow tile. The plant at Warmington, Ohio, known as No. 4 will continue manufacturing rough texture face and common brick.

Perforated Steel Screens



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Sheets furnished flat or rolled to shape for revolving screens.

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You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

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Can you reduce your number of rejects ?

Yes, by insulating your kilns with SIL-O-CEL.

SIL-O-CEL is composed of billions of dead air cells which prevent the penetration of heat.

Where there is no escape possible for heat, the temperature is bound to be more uniform. Such being the case, the chances of certain products being burned while others remain unbaked is reduced to a minimum. In addition to this, there is a material saving in fuel—consequently a saving in dollars and cents.

Insulate your kilns with SIL-O-CEL and reduce the number of your rejects.

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Miners
and
Grinders

Especially Prepared
for Brick Making

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Building Activity Shows Great Increase

According to the Columbus, Ohio, building department permits in the month of June will show up exceedingly well from many angles. This is especially true of the building of homes. Up to the middle of the month the department issued permits for fifty-five dwellings when compared with nineteen permits for the whole of June last year. Total permits issued by the department for the first half of June totaled 220 as compared with 280 for June of last year. Valuations of permits for the half months were about $700,000 as compared with $1,039,495 for the whole of June, 1920.

There is an improvement in the building situation discernible on all sides. Contractors and architects all say that some improvement has taken place with better prospects for the remainder of the season. Money affairs are better and it is easier now to finance building operations. Banks and building and loan associations are more disposed to loan money for that purpose. On the whole there is a better tone to the building industry and it is believed there will be increased activity apparent in July, August and September.

Bricklayers Refuse Contractors' Offer

Bricklayers in Cleveland, Ohio, have decided not to accept the new wage award, made by Judge F. A. Henry, as independent arbitrator for the Mason Contractors' Association and the bricklayers' union. At a special meeting June 19 two-thirds of 700 members voted for $1.25, and one-third for $1.12. The award was for $1.04. Thomas Izzard, fourth vice-president of the International union, was called from Toronto to attend the meeting. He advised the men to return to work under the Henry award. Further action will be taken by Mr. Izzard with other international officials.

It was claimed by President W. K. Bell, of the local union, that half of the local membership would return to work on maintenance work and for independent contractors at $1.25 an hour, while the other half would remain on strike. He also asserted that no outside help in wage or other disputes between employers or the men would be tolerated henceforth.

President C. C. Nims, of the Building Trades Employers' Association states that his organization will insist that the men accept the $1.04 award, and that not a penny more will be paid, even if this action ties up the building industry. He expresses confidence that the men will accept the $1.04 award if the international insists upon it.

Local brick interests were feeling direct effects from this new turn in labor conditions, for inability of members of the Material Dealers Association to make deliveries on jobs was cause for turning back much brick to both manufacturers and jobbers, as well as holding up material in distributors' yards.

Plans of the local bricklayers to hold out were upset later by telegraphic instructions from the international executive board, signed by William Dobson, secretary, in which the men were instructed to go back to work immediately, and at the wage award set by the arbitrator. Secretary Charles Smith, of the Building Trades Council, stated that the instructions from international headquarters would be observed.

To Install More Machinery

The Bingen Brick Co., Saucona, Pa., has construction under way on a new building at its plant, to be equipped for increased production. Additional machinery will be installed.

Making Plant Improvements

The Keystone Brick Co., Tabor Road, Philadelphia, Pa., has arranged for alterations and improvements at its brick manufacturing plant, estimated to cost about $1,700.

United Refractories Resumes Operations

The brick plant of the United Refractories at Pechin, near Dunbar, Fayette County, Pa., has resumed after an idleness of more than four months. The same company expects to open its mines at Ferguson in the near future.

Brick Plant to Be Sold

The property of the Philadelphia Vitrified Brick Co., Philadelphia, Pa., at Bedford, Bedford County, Pa., will be offered at public sale on July 11, by J. M. Fink, trustee. The property comprises about thirty-six acres of land, with buildings and machinery, the latter including a complete brick manufacturing plant.

Publishes Book on Brick Mantel Design

In the realization that it was supplying a growing demand for a really practical book of mantel designs in brick, the Pearson Brick Co., New Castle, Pa., has published an attractive portfolio containing a number of different varieties of mantel designs. Each mantel design shown has been erected and proven for its proper proportions and practicability. No special shapes are required and every design can be contracted or enlarged to fit any wall space.

The drawings were made by the company and reflect the experience of twenty years in mantel building. The drawings are made to exact scale, facilitating the work of the mason in following out the design. The book is very beautifully bound and contains fourteen different designs for brick mantels.

Good Coal—Good Men—Good Kilns—Reduce Cost

"By a combination of good men, good coal, and good kilns, we have greatly reduced the cost of brick manufacture," said Robert Orner, superintendent of the brick making plant of the Johnstown (Pa.) Clay Products Co. Mr. Orner was talking to the representative of *Brick and Clay Record*. He continued:

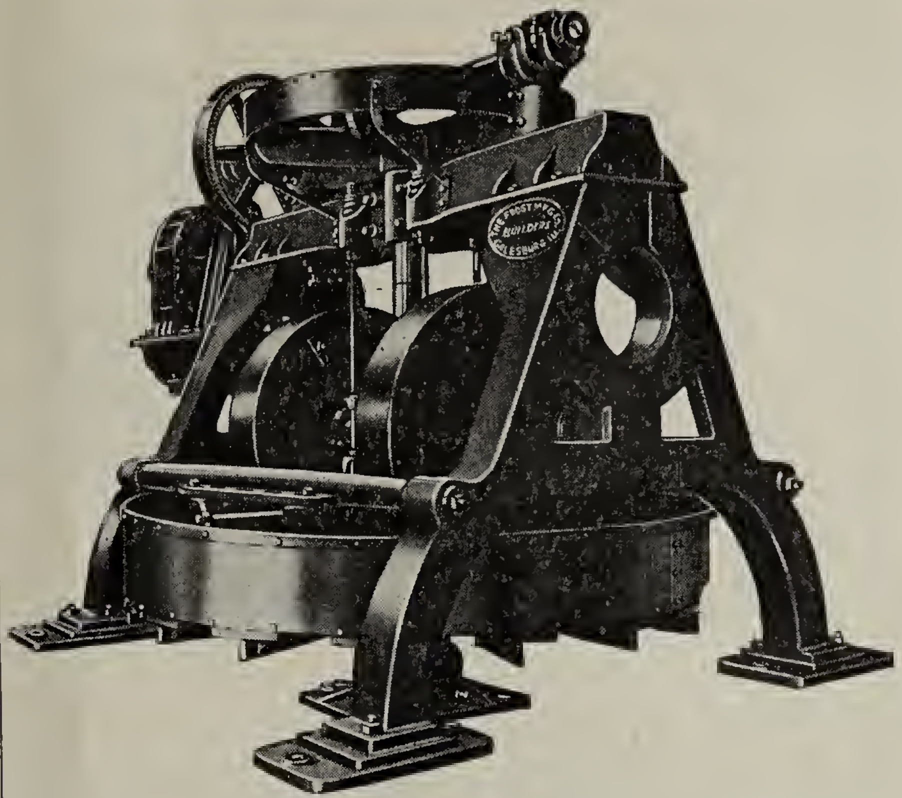
"In the matter of coal alone we have made a great advance. I notice that others report that they use over one ton of coal to burn 1,000 brick. Let us look at our actual figures for a month. In the month of May just passed, we burned 365 tons of coal and made 452,000 brick. That figures out about 1,614 pounds of coal to 1,000 brick. That of course does not include the amount of coal used under our boilers.

"We are half electrified here, using part electrical power and part steam produced by coal. We started in to electrify when coal was expensive, last year, but now that coal has dropped in price, it is costing us more for the electricity than it is costing us for the coal we are burning. If we had not begun to electrify, it is probable that we would not now enter on such an operation. But that does not mean that every month we will come out the same. When we have had very good coal we have sometimes run the coal cost of burning brick down to about 1,200 pounds of coal per 1,000 brick; but that is unusual. Frequently the coal cost runs up to 1,800 pounds of coal per 1,000 of brick.

"We have good down-draft kilns and a good burner man. That is an important factor in burning brick. It is a matter requiring great skill and experience. Our burning is excellent; and we have very few spoiled brick.

"We are just now installing pyrometers operated by electricity. They will register automatically the heat in six kilns. We have ten kilns in all, but only six of them are going at one time, and the six records are all we need at any one time.

"We have just constructed a waste heat drying system, which we began using about two months ago. It results in a great saving of coal for it utilizes the waste heat from our kilns.



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GALESBURG, ILLINOIS.
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THE KILN OF SURE CONTROL
AMERICAN
DRESSLER
TUNNEL KILN

PENNY WISE AND POUND FOOLISH

is the man who continues to pay more to

BURN BAD PRODUCT

than to

BURN GOOD PRODUCT

American Dressler Tunnel Kilns, Inc.
1740 East 12th Street,
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O'GARA COAL CO'S
HARRISBURG
FOR HEAT
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O'GARA'S
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Fills the prescription for

ECONOMICAL FUEL
HIGH CARBON
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GREATEST HEAT

Performance tells the tale

O'GARA COAL COMPANY
CHICAGO MINNEAPOLIS

PREMIUM
COAL

High in Heat Units
Low in Sulphur
Even in Combustion

Produced By

Big Creek Coals, Inc.
Peoples Gas Bldg.
Minneapolis - CHICAGO - Galesburg

● ● ● ●

"BIG CREEK"
for years has stood for
SERVICE AND QUALITY

The only drawback of such a system of drying is that it can't be used very well when you are running light. But one way to meet that situation is to fire up one of the empty kilns.

"We believe the best way to reduce cost is to install improved machinery. A month ago we installed a Chambers Royal Brick Machine, which is facilitating the making of brick.

"Previously our specialty has been the making of ladle brick for the steel companies. We have a fine seam of fire clay up here. But what is most needed in the making of ladle brick is real hard burning, and ladle brick is no good unless it is burned real hard. That kind of burning requires a temperature of 2,200 to 2,500. That kind of brick making is still our specialty. But we have found it advisable to go into the making of building brick, both face brick and common.

"In our market we have been very fortunate. The Cambria Steel Co. has been building extensively and using millions of brick. Most of our building brick went to them. The outlook is that they will take all the brick we can make till late in the summer. After that we think the steel men will be wanting brick.

"We deliver a good many of the brick ourselves by our two 6-ton trucks—Packards. We are very much pleased with them, and doubt if there is anything superior to them."

McCraw Company Putting in New Equipment

The McCraw Brick Co., Gaffney, S. C., is planning for the installation of new equipment at its plant for increased production. A department for face brick manufacture will be established. It is proposed to install a new steam shovel at the local clay properties. C. D. Meadows is secretary and treasurer.

Herbert-Fischer Completes Installations at Brick Plant

The Herbert-Fischer Brick Co., Memphis, Tenn., has just completed the installation of a new continuous kiln system in the South Memphis plant, and are now burning stiff mud brick and common brick.

Brick Plant To Operate in Texas

The Rich Square (Tex.) Brick Co. recently incorporated with a capital of $400,000, will operate a local plant for the manufacture of building brick. J. R. Connell is president.

Saskatchewan Concern Makes Hollow Brick

The Estevan (Sask.) Brick & Coal Co. has installed a new machine for making hollow ware for interior wall construction. The product is the same size as the present wire-cut brick, but is perforated from end to end by two openings about one inch in diameter. It is claimed that these openings will form a dead air space in wall construction, making a warm, frost-proof, damp-proof wall.

Finds Clay Deposit in Alaska

Not far from Juneau, Alaska, deposits of what appears to be very good clays have recently been discovered by John B. Marshall. The clays are contained in a dyke of igneous rock-feldspar and where this dike is covered with loam and vegetation, both where the dike stands in place and where fragments of it have been eroded to lower levels, the rock has undergone decomposition, leaving a clay which crude experiments show to be workable and perhaps highly refractory. Samples of these clays have been sent to the Bureau of Mines Experiment Station at Seattle, Wash., and if the analysis is satisfactory more samples will be sent to an expert in clay analyses.

Will Build Plant at San Luis Potosi

San Luis Potosi, Mex., will be the location of a new brick plant if the plans of Augustin Baldit are carried out successfully. Senor Baldit is getting in touch with various machinery and equipment manufacturers with a view to properly equipping his plant.

⁂

The Building Situation in the East

(*Continued from page* 1091)

with a growing call for material. A number of large contracts have recently been taken, covering local operations.

BRICK PRODUCTION COSTS

With the prominence given recently to high and excessive brick prices in the New York district, and the frequent charge of profiteering, it is evident that actual findings will show that great exaggeration in this respect has prevailed. Coming firmly before the local building industry, the Empire Brick & Supply Co. has exhibited certified cost figures of late years. Covering the two-year period of 1919 and 1920, it is shown that the average cost of common brick per thousand to this company at the Hudson River yard was $11.95; with transportation costs averaging $2.82 a thousand to the New York dock, the total average cost delivered to the market has been $14.77, and exclusive of administration and selling expense.

INQUIRY AT BUFFALO

The varying production costs at this company's plant are set forth as follows, the figures being per 1,000 common brick:

Year	Labor	Transportation	Fuel
1916	$2.90	$1.15	$0.81
1917	3.48	1.47	1.09
1918	5.11	2.02	1.49
1919	5.29	2.46	1.54
1920	8.37	3.43	1.69

The Lockwood Legislative Committee, which has recently been conducting an investigation of building material prices at New York City, has transferred its work to a similar inquiry at Buffalo.

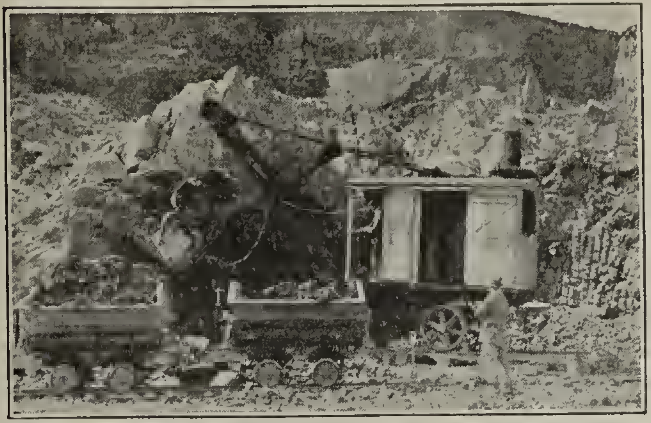
New Jersey.—Labor has been the center of interest in New Jersey during the past fortnight, with a suspension of operations thruout Essex County, and at Trenton. Employing contractors have been endeavoring to effect a lower wage scale at Newark, in Essex County, and vicinity, as recorded in recent issues of *Brick and Clay Record,* with the ultimate outcome still in doubt.

In the matter of the bricklayers in the Newark district, the proposition has been put up to a decison of an arbiter, and which decision will be final. Meantime, the men have returned to work at the old scale of $10 a day. Employers have been asking the men to accept from $1 to $2 less. Carpenters, iron workers and laborers, now out on strike, are also being requested to return to work under a reduced wage schedule.

LABOR AT TRENTON

There is a deadlock at Trenton between the Master Builders' Association and the Building Trades Council. After extended parleys and conferences, the former organization has announced its determination to place a wage reduction of about twenty per cent. into effect, and the men have been given a week to return to their jobs. Up to the present time, none of the union men have shown the inclination to respond, and it is likely that an open shop will result if the workers persist in holding out.

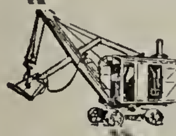
There is a growing sentiment towards building in New Jersey, and each week is rounding out quite substantial totals. Activity is concentrated upon apartment and home construc-



"We could not get along without our ERIE. We are well pleased—it is doing fine work." Brooklyn Brick Co., Indianapolis, Ind.

"WE'RE loading 50 tons of stiff clay per hour with our ERIE, and much pleased with its operation. It has proved very satisfactory in every way." *Des Moines Clay Co., Des Moines, Iowa.*

Just one of the many letters in our files showing the results clay products manufacturers are getting with the ERIE Shovel. We will be glad to send you more of them—also Photos of the ERIE excavating stiff clay and shale; unloading coal and piling it for storage, etc. Write for Bulletin "B."



BALL ENGINE CO., Erie, Pa., U. S. A.
Builders of ERIE Revolving Shovels and Locomotive Cranes.

ERIE Revolving Shovels

BALL Engine Co. Erie, Pa.

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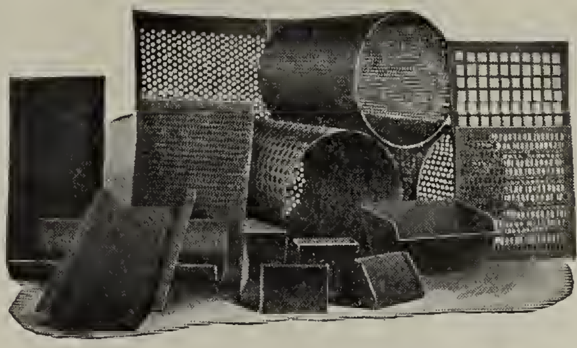
FOR ALL PURPOSES



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CONVEYOR TROUGH and FLIGHTS
STACKS, TANKS,
GENERAL SHEET and
LIGHT STRUCTURAL WORK

Ask for your copy of the Perforated Metal Handbook

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tion, and this class of work is leading all others by many thousands of dollars.

At Newark and vicinity, the totals are aggregating about $1,000,000 a week, taking in the Oranges, Montclair and other residential sections.

THE BRICK MARKET

The New Jersey brick market is without any special feature. Prices of common brick at the Trenton yards stand at $18 and $19, with delivery on the job quoted at $21 and $22. Parallel figures prevail in the Hackensack district, which handles a large part of the call in northern New Jersey. Dealers at Newark are quoting deliveries at $21.50 and $22, with closely similar prices prevailing at Paterson and Passaic.

Fire brick is operating under lessened call with current figures varying from $70 to $85, according to selection. Fire clay is selling from around $20 a ton at the material yards.

The call for face brick shows a noticeable increase during recent weeks, with quotations varying from $35 to $55, according to character; rough texture brick are now in popular demand.

COMPETITION KEEN IN PHILADELPHIA

Philadelphia.—There is keen competition and close bidding on such work as now is available for estimating in the Philadelphia district, and no job seems too small for leading contractors who heretofore have limited their operations to extensive projects.

The slow moving status of affairs in the Quaker City is shown still more forcibly by the fact that the first five months of the present year are over $19,000,000 behind the total of $31,795,235 for the corresponding period of a year ago.

It is surprising to note the popularity of garage construction in this section; there are more permits being issued for structures of this kind than dwellings or other buildings, and hollow tile is operating under a good call for this work.

PRICES UNCHANGED

The Philadelphia building material market follows closely local construction conditions in point of interest, and that is, featureless. Common brick maintains at the $20 figure, while face brick ranges from $35 upwards in price, good, choice material being available at from $45 to $50. Fire brick is selling at $70 and $75 a thousand.

It is of more than passing interest to note that Wilmington, Del., is taking on the aspects of a strong building revival and construction operations are increasing daily. May totals rounded out over $146,000 in new buildings, and June figures will show a close parallel. There is a growing call for brick and other burned clay products, and producers are far more optimistic in their expressions for the immediate future. There has been a downward trend in material prices and this has helped the resumption in a noticeable way. New houses form the bulk of operations at the present time.

* * *

A Book on the Construction of Roads

George R. Chatburn, A. M., C. E., has written a book under the title, "Highway Engineering; Rural Roads and Pavements", which has recently been published. The book treats of the construction of rural roads and pavements and is an up-to-date text, covering the most recent and best practice employed in the construction of roads. Those types of roads most common in the rural dictricts, small cities and towns, or best adapted for use therein, have been covered in greatest detail. While intended primarily for use in agricultural education, this book will be found interesting reading by the layman, and will also serve as a useful reference book for professional engineers, road builders and road officers.

"Where-ever It Is—It's Hot"

EQUATOR COAL
FOURTH VEIN
OR
HARRISBURG

4th Vein

This coal is superior for burning clay products. It enables the clay plant owner to burn his ware at a much lower cost. Our service is the best to be had and the price is right.

Let us send you information

The
FARLEY HOPKINS
COMPANY
Fisher Bldg. CHICAGO

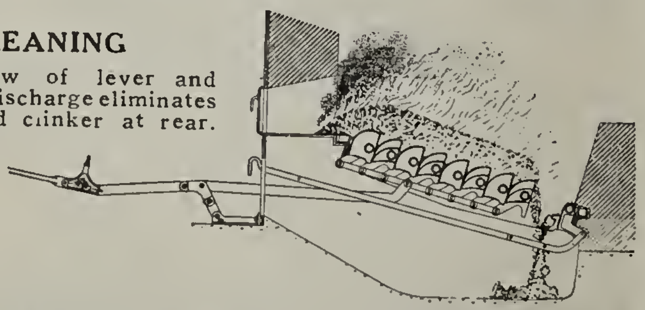
BE UP TO DATE IN BURNING YOUR COAL

Coal is a large part of the cost of your brick output

COKAL
HAND STOKERS

SAVE COAL AND ELIMINATE HAND CLEANING PERIODS—FIRES ARE ALWAYS CLEAN

CLEANING
Full throw of lever and auxiliary discharge eliminates all ash and clinker at rear.



For Boilers or Kilns

COKAL STOKER CORPORATION
1037 NORTH CLARK STREET, CHICAGO

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

Erie Shovel's New Caterpillar-Type Mounting Is Completely Lubricated

For several years revolving steam shovels have been used on mountings of the caterpillar type, to provide maximum bearing surface over soft ground. This type of tread has a decided advantage for certain classes of excavation, especially where there are frequent move-ups over a soft floor.

Erie shovels and cranes are now being built with caterpillar-type mounting that is *fully lubricated*, an improvement which is giving owners far greater durability than they have had with any other mounting of this type. The Ball Engine Co., of Erie, Pa., builders of the Erie shovel, have recently placed this mounting upon the market after three years of experiment and careful test.

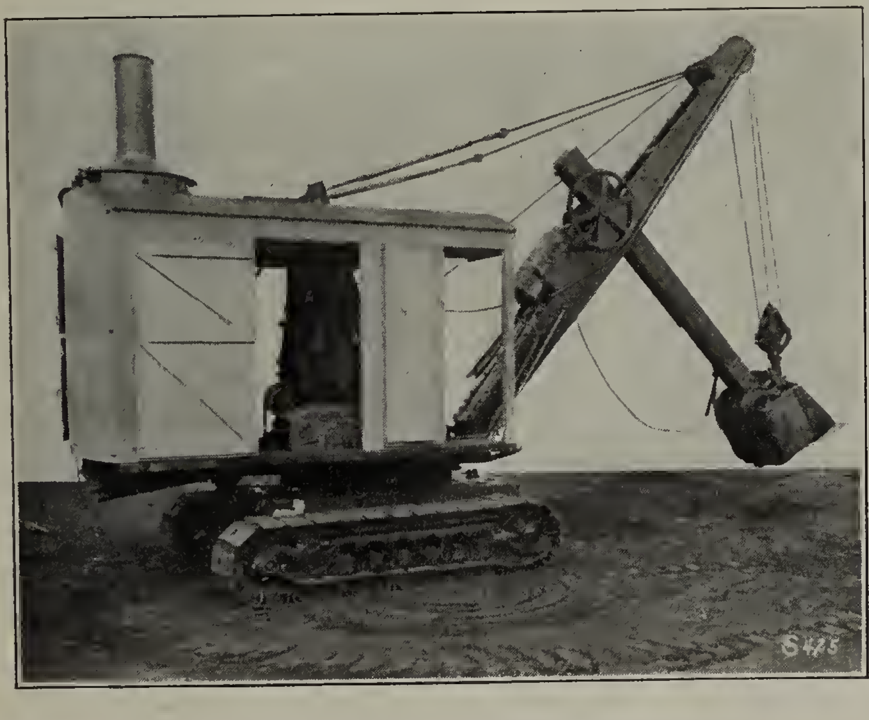
The durability of the new mounting is perhaps its most important feature. After a run of 100 miles, a caterpillar-type Erie travels just as smoothly as when new—whereas unlubricated mountings have often been known to wear out after moving less than forty miles.

On the new Erie mounting, every bearing is fully protected against undue wear by a film of special heavy oil, a lubricant which works equally well in hot weather or below zero. The link bearings are not allowed to run dry and "cut," but are protected like other important bearings on the Erie shovel. The Ball Engine Co. states that most of the trouble with various caterpillar-type mountings for steam shovels has been directly due to lack of lubrication.

Not only greater endurance, but far more traveling speed and climbing power result from the reduction of friction in the new Erie mounting. A caterpillar-type Erie travels at a speed of more than a mile an hour on high gear—five to ten times as fast as unlubricated machines. And the Erie climbs grades up to 25 per cent. on its own power. The surprising power, both for fast traveling and steep climbing, is due to the small loss of power by friction.

The lubrication of the Erie caterpillar-type mounting is easily taken care of. One filling of the oil reservoirs provides for at least a month's steady service. Once a month the operator spends about an hour in going all over the mounting with squirt gun.

Another very important feature of the Erie's continuous-tread mounting is the perfect steering, controlled entirely by the operator from his regular position in the cab. The oper-



Type "B" Erie Shovel on New Caterpillar-Type Mounting, Making a Complete Circle, 20 Ft. 4 In. in Diameter.

UFCO

UNION FUEL COMPANY

A COMPANY WITH DEFINITE IDEALS

Coal that is high in heat producing capacity, and low in ash.

GENERAL OFFICES:
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Mines owned and operated by the company are located at—

No. 1 Nilwood, Ill.
No. 2 Keys, Ill. (Tuxhorn)
No. 3 Auburn, Ill.
No. 4 Athens, Ill.
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PLIBRICO can be molded to fit any place in the furnace or setting.

Ask for our book S-34 on Furnace Building.

PLIBRICO
JOINTLESS
FURNACE LINING

After being molded into shape and properly baked and vitrified. PLIBRICO makes front-door arches, side walls, bridge walls, and baffles that are air tight and gas tight. No leaks to retard combustion and thus eat into the coal pile—and the pocketbook.

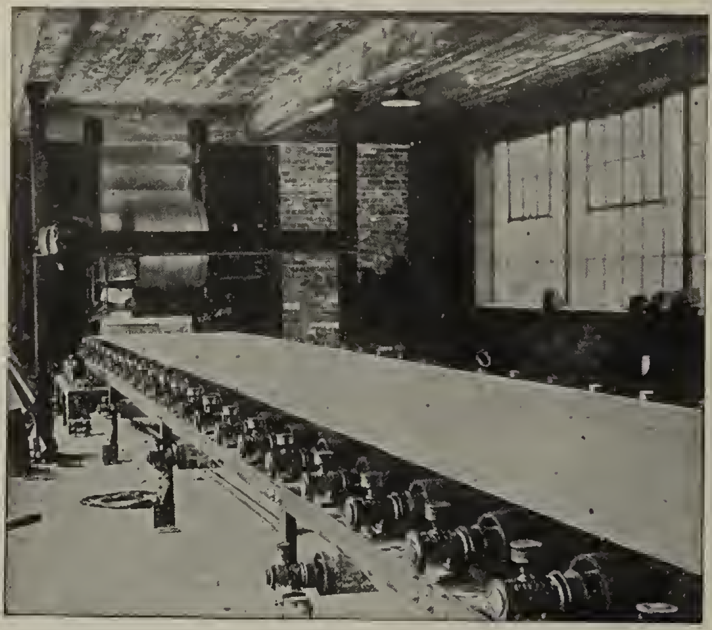
Any man can apply it. No forms needed. Excellent also for patching.

PLIBRICO IS DELIVERED ONLY IN STEEL CONTAINERS OF DISTINCTIVE APPEARANCE AS SHOWN BELOW. Warehouse stocks in all principal cities always ready.

JOINTLESS FIRE BRICK CO.
1130-1150 CLAY ST. CHICAGO

BURN MORE BRICK

TO MEET THE DEMAND THAT IS SURE TO COME EQUIP YOUR PLANT WITH WELLER MADE MACHINERY TO HANDLE THE RAW MATERIALS AND FINISHED PRODUCTS MECHANICALLY. OUR ENGINEERS ARE AT YOUR SERVICE TO ASSIST IN THE SELECTION OF EQUIPMENT TO MEET YOUR REQUIREMENTS.



We Design and Make

APRON CONVEYORS
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BUCKET CONVEYORS
DRAG CONVEYORS
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BUCKET ELEVATORS
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WELLER MADE CHICAGO

Working in a 30 Ft. Fill of Soft Earth and Rubbish, Soaked by Heavy Rains—So Soft a Man Could Hardly Walk on It.

ator can turn sharply either to right or left, or when desired can turn right about in one spot.

The Erie caterpillar-type mounting is easily interchangeable with ordinary traction wheels or standard gauge car wheels, on the same truck frame. The result is that any Erie on traction wheels can easily be changed over to caterpillar-type, and then later changed to car wheels if desired, without any alteration to the truck frame.

* * *

C. & G. Potts & Co.

A slight change was recently made in the firm name of C. & A. Potts & Co. so that it is now known as C. & G. Potts & Co., this change being simply a matter of form. This is one of the oldest soft-mud clayworking machinery companies in the United States, and they will continue furnishing the trade with high grade brick machinery and equipment as for the past forty years.

They have under construction at present a new foundry which will double their capacity. It will be built of brick and steel, 70x130 ft. and one story in height, joining their present building on the west. The cost will be approximately $80,000 and it will be modernly equipped, including an electrically driven traveling crane.

The enlargement of the plant was made necessary by the demand for Potts equipment, this new foundry being used for making grey iron castings, while steel castings are made in the old foundry.

The officers of the company continue the same as before, George Potts, president; Mary Potts, secretary, and Clayton Potts, treasurer.

* * *

H. W. Caldwell & Son Co. Joins Link-Belt Co.

The Link-Belt Co. has acquired all of the capital stock of the H. W. Caldwell & Son Co., and Frank C. Caldwell has been elected a director of the Link-Belt Co.

Two experienced and successful companies in the conveyor world have thus joined forces, with the result that the Link-Belt Co. has added two new lines, Helicoid conveyors and power transmission machinery, to its line of manufactures.

While the H. W. Caldwell & Son Co.'s plant will continue to operate under separate corporate existence and under its present name, the joint facilities of the two companies, and the broader avenues of distribution of the Link-Belt Co., ought to prove of distinct advantage to the customers of both.

There will be no modifications of the policies of the Caldwell plant, no impairment of its service to its customers, no change in the diversity or character of its product.

The plant management will remain substantially the same, and the new owners like the old will proceed on the theory that the good will of its customers is the company's best asset.

* * *

The Chase Foundry & Manufacturing Co., Columbus, Ohio, have opened a sales agency in St. Paul, the company in charge being the Contractors Supply & Equipment Co., 1005 Guardian Life Building, St. Paul.

Ceramics

BRICK and CLAY RECORD

"250 YARDS OF CLAY IN 10 HOURS"

is what the Jos. Soisson Fire Brick Co. of Connellsville, Pa., are digging with their

ONE MAN EXCAVATOR

THAT IS NOT ALL—Read Mr. Soisson's Letter—

"The Excavator we purchased last summer from the Bay City Dredge Works has been VERY SATISFACTORY and GIVING EXCELLENT SERVICE. Our bank is 20 to 23 feet high at the present time and as we will work back it will be higher. It will dig a fairly hard clay. At the present time we shoot our clay but we are convinced that it would work a 10 or 12 ft. bank without shooting. Ours is operated by one man, who loads the car, lets it run down a track to our clay chute and dumps the car, and then by means of pulleys hauls the car back to the excavator point. It will dig 250 yds. of clay in 10 hrs. The engine is easily handled and fuel consumption is five gallons in eight hours."

The Bay City Dredge Works

BAY CITY, MICH.

No matter what your conditions are the ONE MAN EXCAVATOR is capable of handling the situation. It will save you TIME, MONEY and LABOR. WRITE FOR COMPLETE INFORMATION TODAY.

The photo below shows the installation of the ONE MAN EXCAVATOR at the Soisson Plant. Note the simplicity of operation. One man loads the car—dumps it—hauls it back to the pit. Saves the labor of at least 5 men.

Vol. 58, No. 13 Chicago June 28, 1921

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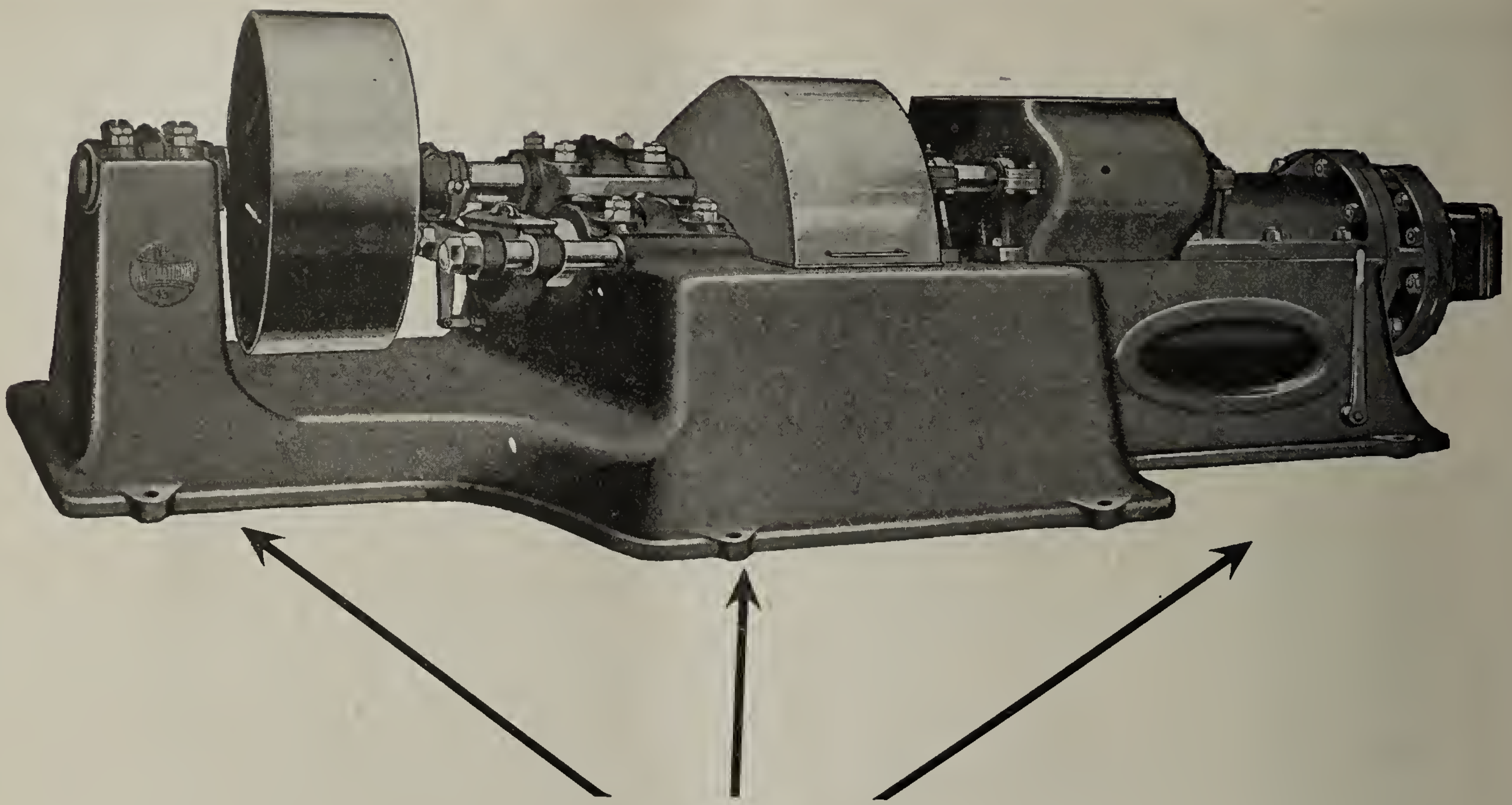


CAST IN ONE PIECE

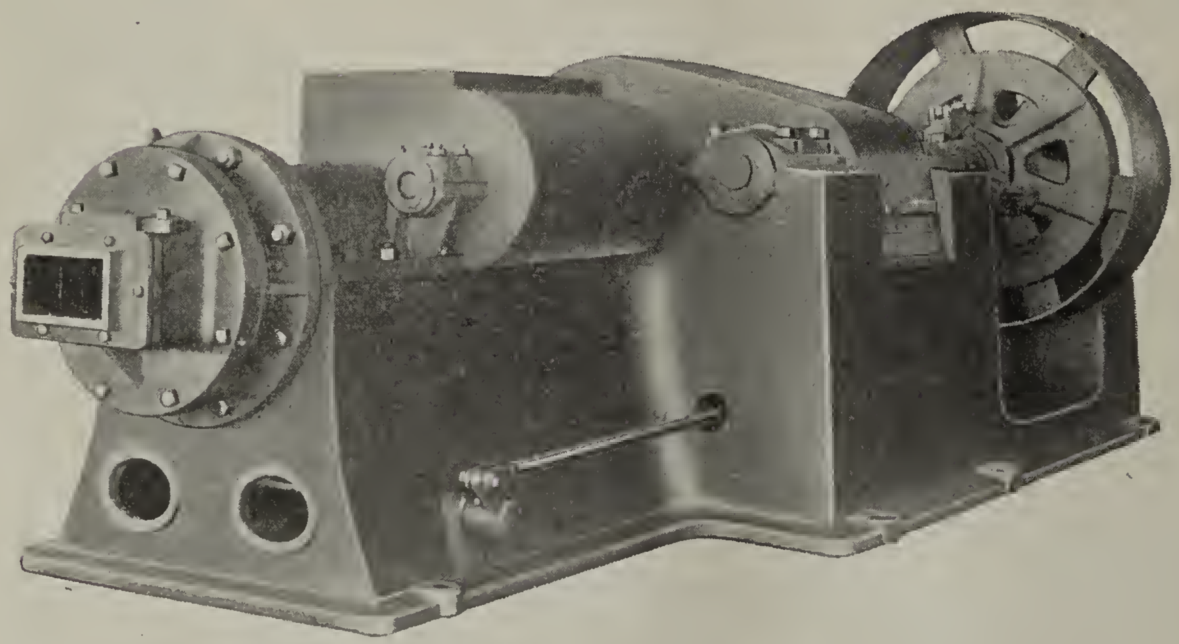
NOTHING CAN WORK LOOSE

STRONGER THAN ITS FOUNDATION

BUILT IN THREE SIZES

TYPE 445—25M TO 40M BRICK PER DAY
TYPE 435—40M TO 75M BRICK PER DAY
TYPE 425—75M BRICK PER DAY UPWARD

Or Equivalent in Hollow Ware



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for
Complete Clay Working Plants

International Clay Machinery Co.

Dayton, Ohio

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"HURRICANE" DRYERS
For CLAY and PORCELAIN

Tunnel Truck Dryer for Insulators

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Low Drying Cost with Better Ware

Actual Performance has proved that "Hurricane" Dryers meet every drying requirement in the ceramic field—at low operating and maintenance expense, with less cracked ware and more uniform results.

Correctly applied engineering principles, backed by 30 years' actual drying experience, readily accounts for the dependable construction and operation of "Hurricane" Dryers.

Automatic temperature and humidity apparatus insures absolute control over the conditions in the machines, and safeguards against over-, or under-drying.

Let us show you how "Hurricane" Dryers will fit into your process.

Truck and Automatic Systems for

China Ware
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The Philadelphia Drying Machinery Co.
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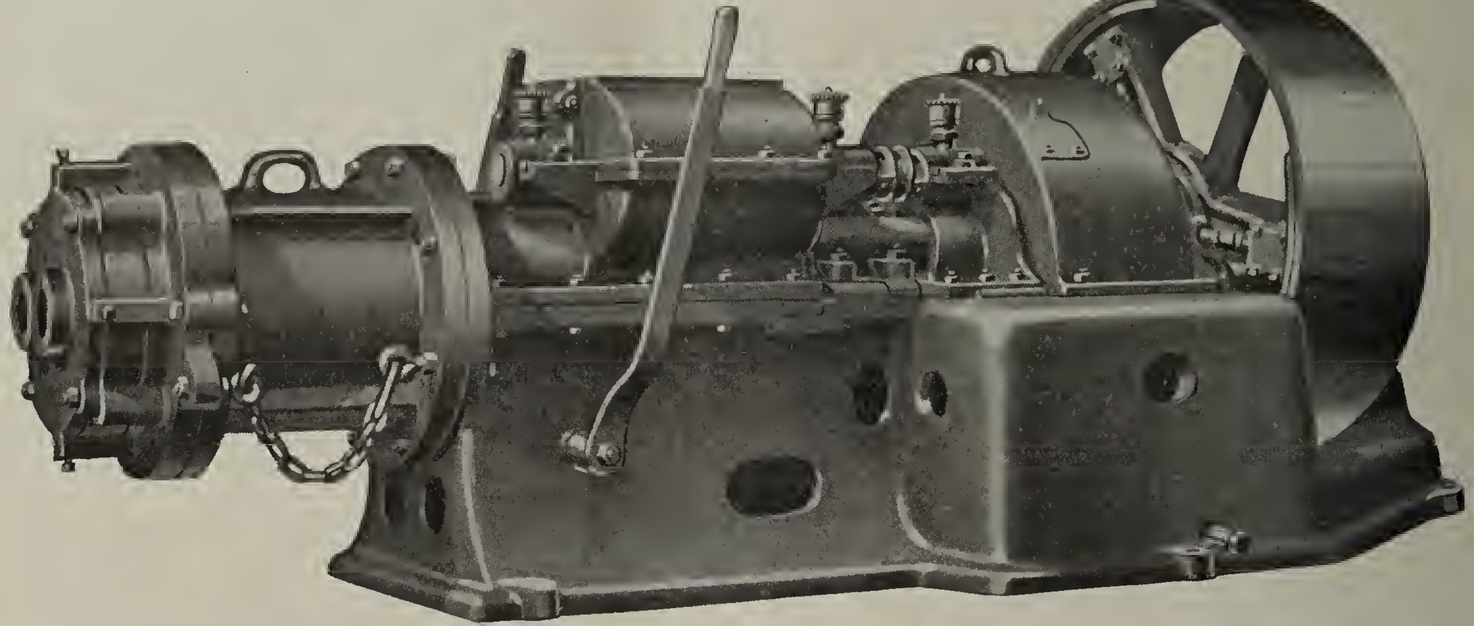

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Reduction of inventory, and low operating costs are the goals of all manufacturers during the present re-adjustment period.

A BONNOT "Standardized" plant will mean a minimum number of repair parts in stock—and a similar minimum of use for them.

Dollar for dollar you get the most value for your money when you buy BONNOT equipment. Service is built into every part and no essential feature is overlooked.

For the manufacturer who wants the best—because it is the most profitable investment—we offer a complete line of clay working machinery.

Write for a catalogue

THE BONNOT COMPANY, CANTON, OHIO

STYLE "E" PUG MILL

PERSONAL BUT NOT CONFIDENTIAL

From: **Charles Engelhard, Inc.**
To: **The man who uses base metal couples.**
Subject: **ECONOMICAL THERMO-COUPLES.**

(1) In 1913 we convinced the management of a large chemical plant that platinum thermo-couples mounted in porcelain tubes were the economical ones for them to use. The temperatures did not exceed 1600° F. The initial installation was six 48-in. thermo-couples. Six more were added in the following three years. All twelve have been working since then.

(2) The total cost of the 12 thermo-couples was $778. All repairs necessary to keep them in good condition since March 6, 1913, have amounted to $33. Average cost of repairs per year $4.12. Repairs expressed as a percentage of first cost=0.53% per year.

(3) At present prices the platinum wires in these couples would be worth as "scrap" about $170. All of them are in calibration, however, and apparently good for many more years of service.

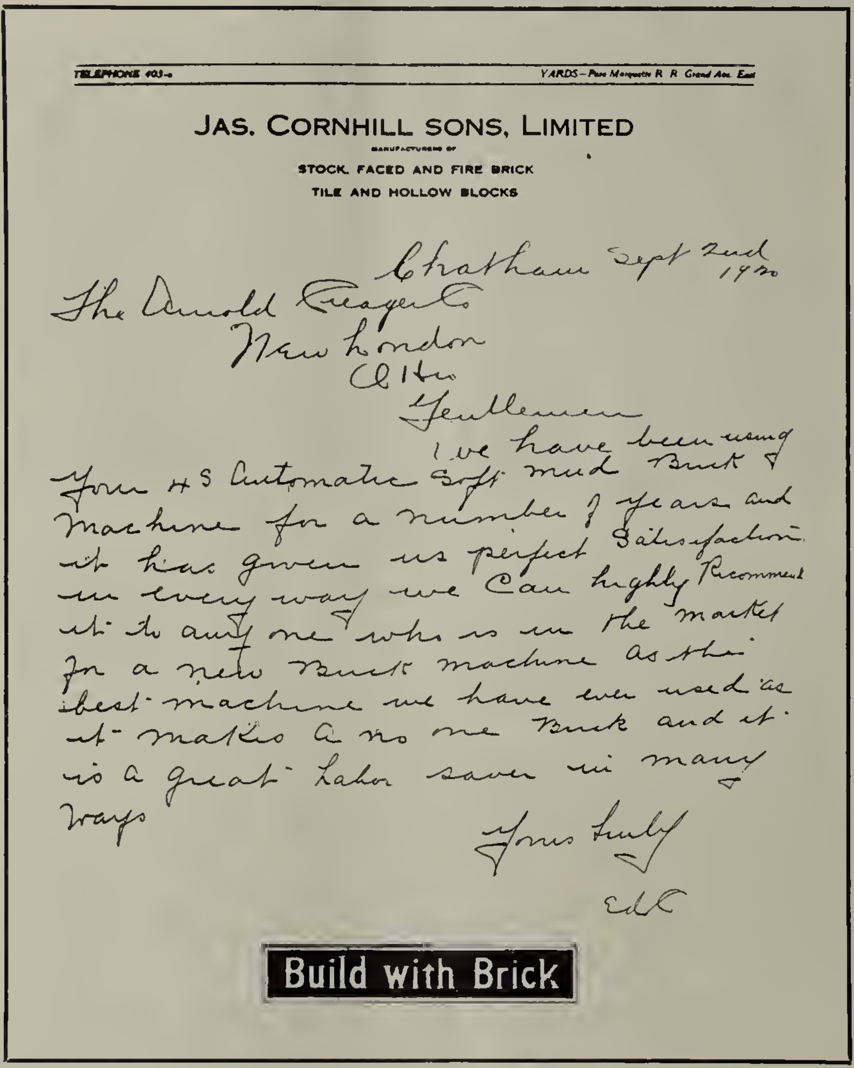
(4) The excellence of the thermo-couple is only one of the reasons why Engelhard Pyrometers Are Good Pyrometers To Standardize On.

Yours truly,

Charles Engelhard, Inc.

30 Church Street, New York City

Our Customers Say—



TELEPHONE 403- YARDS—Pere Marquette R. R. Grand Ave. East

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MANUFACTURERS OF
STOCK, FACED AND FIRE BRICK
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Chatham Sept 2nd 1920

The Arnold Creager Co
New London
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Gentlemen

We have been using Your HS Automatic Soft mud Brick & Machine for a number of years and it has given us perfect Satisfaction in every way we Can highly Recommend it to any one who is in the market for a new Brick machine as the best machine we have ever used as it makes a no one Brick and it is a great labor saver in many ways

Yours truly

Ed C

Build with Brick

The "Arnold-Creager" S. S. S. Special Automatic Brick Machine pays for itself in a short time.

Prominent Brick Manufacturers from the North, South, East and West will tell you how well satisfied they are with our Material, Workmanship and Service.

We specialize in the manufacture of "Arnold-Creager" and "Martin" Brick Machinery and Supplies.

- Brick Machines
- Pug Mills
- Winding Drums
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- Disintegrators
- Crushers
- Mold Sanders
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- Cable Conveyors
- Rotary Dryers
- Sand Dryers
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- Transfer Cars
- Dry Brick Cars
- Molds
- Barrows
- Trucks
- Tanks
- Stacks
- Kiln Irons
- Represses

Lancaster Iron Works, *Inc.*

Lancaster, Pennsylvania

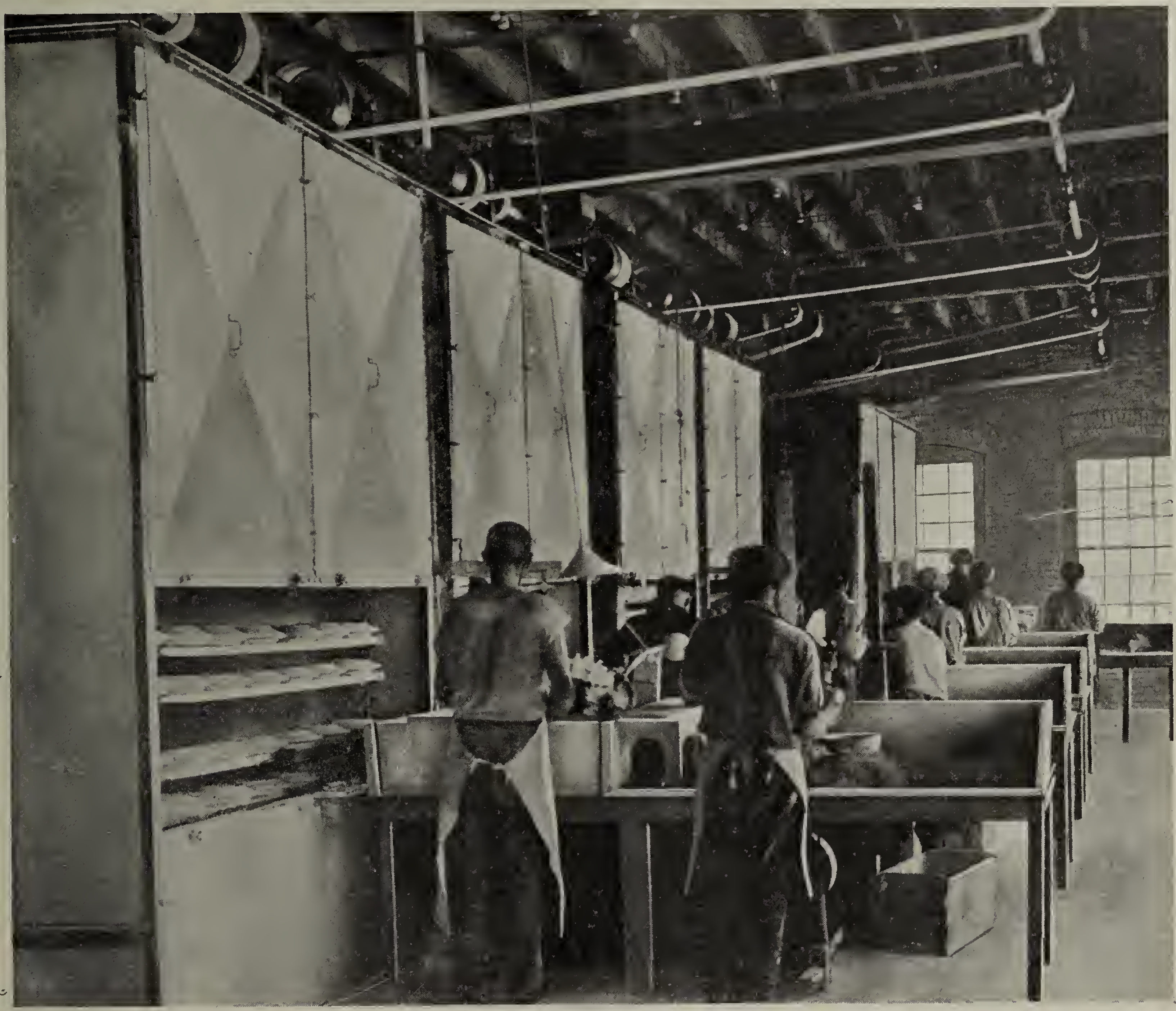
Successors to The Arnold-Creager Co., New London, Ohio. Originated 1877.

Brick Machinery Department
JAS. P. MARTIN, Mgr.

Manufacturers of "Martin" Brick Machinery, Lancaster, Pa., Originated 1858.

DRYING GENERAL WARE

Improve your results and cut your cost with "Proctor" Automatic Stove Rooms



"Proctor" Automatic Stove Rooms at Iroquois China Co.

The "Proctor" Automatic Stove Room makes the user sure of perfect uniformity in drying General Ware—insuring even shrinkage; preventing warping and cracking; eliminating spoilage in a remarkable degree.

This efficient, automatic machine speeds operation and cuts cost enormously over old drying methods. It saves time—drying in 90 minutes; saves space—the 6 machines shown above occupy the same space formerly required by 4 jiggermen with old stove rooms. It saves handling and labor.

Let us acquaint you with all the wonderful advantages of "Proctor" Stove Rooms; also "Proctor" Automatic Mangles and Sagger Dryers. One of our ceramic engineers with the broadest drying experience, will call without obligating you in the least.

PROCTOR & SCHWARTZ, Inc.
formerly The Philadelphia Textile Machinery Company
PHILADELPHIA

"Proctor"
DRYERS

Branch Offices: PITTSBURGH NEW YORK CHICAGO PROVIDENCE

LONG reach and high dump were positive essentials in this clay pit of The Ayer-McCarel-Reagan Clay Co., of Brazil, Indiana. Their operations were of such a nature that they required equipment of *more than ordinary* working range.

In the close quarters shown in the photograph this Model 36 was dumping 23 feet above grade. The reach from pivotal center to center of dipper was 37 feet and this reach could be increased 8 feet where necessity required.

If your stripping or loading is of the *unusual* kind, your shovel should be a "Marion."

THE Marion STEAM SHOVEL CO.

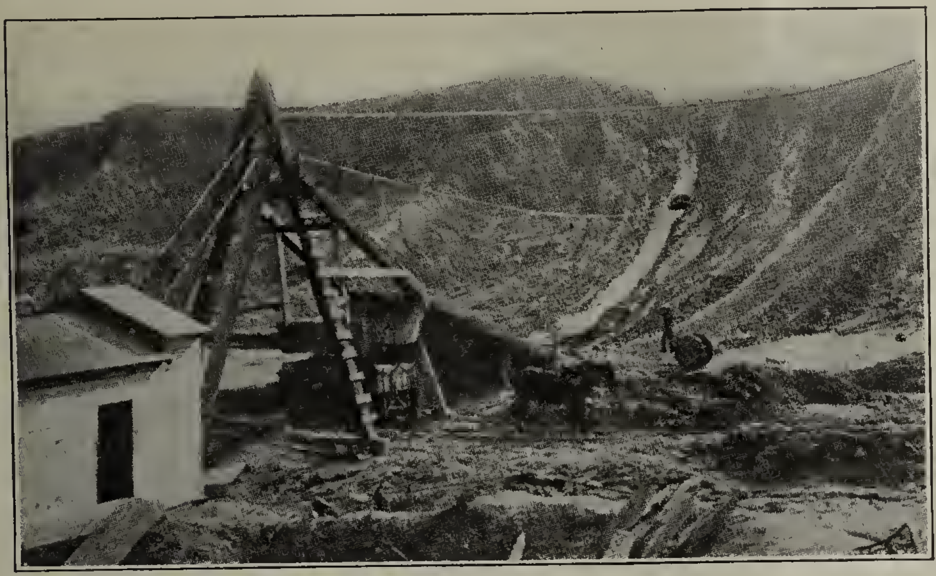
Established 1884 Marion, Ohio

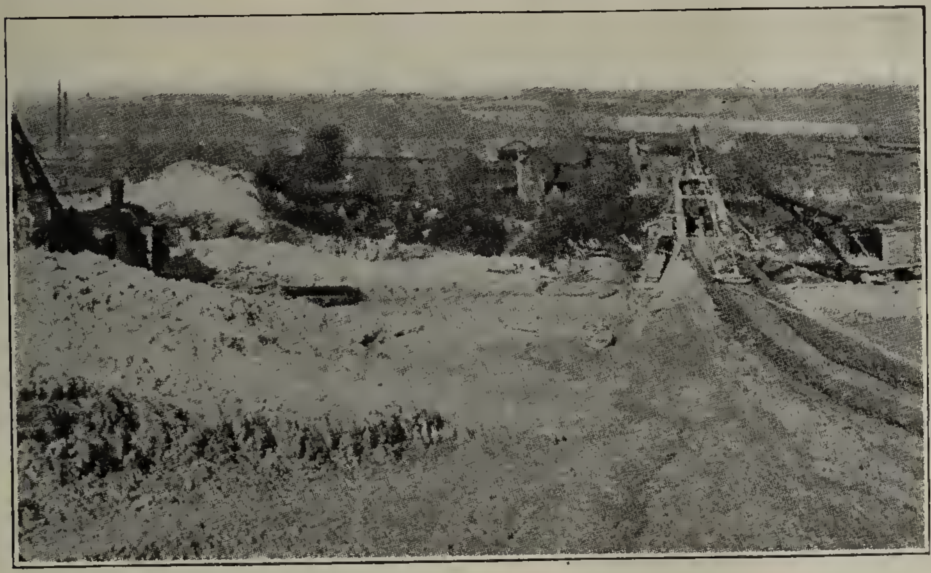
EVERYWHERE RELIABLE
THE Marion STEAM SHOVEL CO.
ESTABLISHED 1884

New York Chicago Atlanta San Francisco

Boise, Idaho, - Clyde Equipment Co.
Billings, Mont., F. B. Connelly Co.
Dallas, - F. B. Wright, Bush Bldg.
Denver, - - - H. W. Moore & Co.
Detroit, W. H. Anderson T. & S. Co.
Philadelphia, H. L. Cox, 13 & Cherry
Pittsburgh, - - - J. W. Patterson
Portland, - - Clyde Equipment Co.
Salt Lake City, H. W. Moore & Co.
Seattle, - - Clyde Equipment Co.
Vancouver, - - - - - - - - - - - Vancouver Machinery Depot, Ltd.
Montreal, Toronto, - - - - - - - - - - - F. H. Hopkins & Co., Ltd.

Doing the Work of Two Steam Shovels.





The two views on this page show an installation of a SCHOFIELD-BURKETT EXCAVATOR at the plant of the Cleveland Builders Supply & Brick Co., Cleveland, Ohio. The lower picture shows the SCHOFIELD-BURKETT displacing two steam shovels.

The Company had a 65-ft. bank of clay that had to be worked in terraces with steam shovels on account of "cave-ins" and "slides." This operation did not prove satisfactory because it was very costly and inefficient. After experimenting with different equipment, they installed a SCHOFIELD-BURKETT EXCAVATOR and it is doing the work in the 65′ bank without any danger of "slides", loading four yards at each dip, with a thorough mix of the different strata in each load.

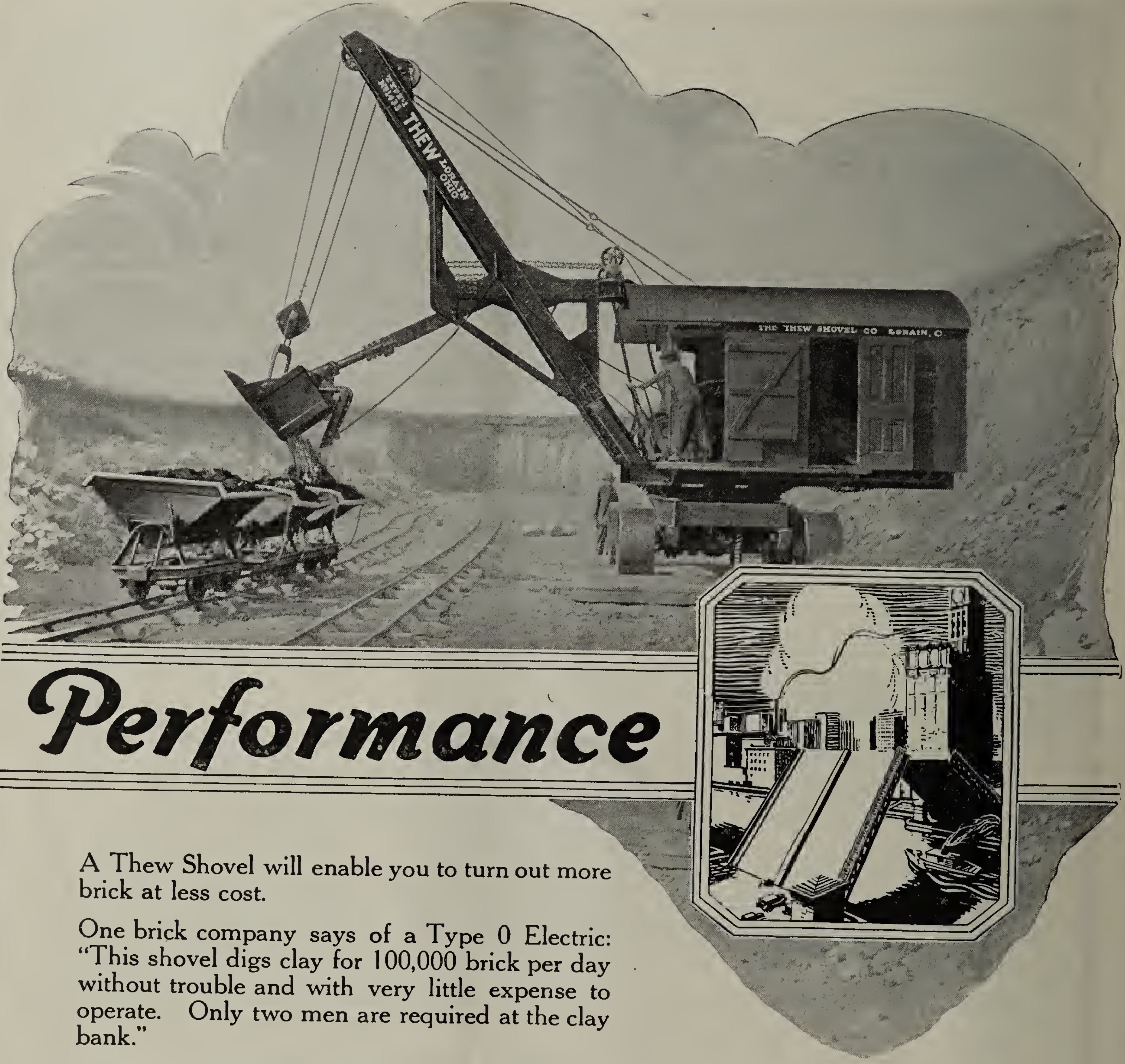
Possibly you have the same condition to contend with at your plant. No matter how well equipped other departments may be, if the handling of your raw material is expensive—and in most plants it is—then the efficiency of the whole plant is impaired.

The SCHOFIELD-BURKETT EXCAVATOR digs, gathers and delivers. Operated by two or three men. Excavates several acres of clay or shale without moving the tracks or machinery. Works fast—economical—repairs easily made and inexpensive. Built for long life and hard service.

Whatever your conditions, removing overburden or gathering clay, if you have an excavating problem, write us. Our Engineers are at your service at all times.

SCHOFIELD-BURKETT CONSTRUCTION CO.

Macon, Ga.



Performance

A Thew Shovel will enable you to turn out more brick at less cost.

One brick company says of a Type 0 Electric: "This shovel digs clay for 100,000 brick per day without trouble and with very little expense to operate. Only two men are required at the clay bank."

In clay, in shale, for mixing, the Thew Shovel is powerful, fast and dependable. It is your best insurance against material shortage.

THE THEW SHOVEL COMPANY
LORAIN, OHIO

EXPORT DEPARTMENT
ALMACOA ALLIED MACHINERY COMPANY OF AMERICA ALMACOA

Thew
Power Shovels

H. W. Caldwell & Son Company enters the
LINK-BELT FAMILY

The Link-Belt Company has acquired all of the capital stock of the H. W. Caldwell & Son Company, and Mr. Frank C. Caldwell has been elected a director of the Link-Belt Company.

Two experienced and successful companies in the conveyor world have thus joined forces, with the result that the Link-Belt Company has added two new lines, Helicoid Conveyors and power transmission machinery, to its line of manufactures.

While the H. W. Caldwell & Son Company's plant will continue to operate under separate corporate existence and under its present name, the joint facilities of the two companies, and the broader avenues of distribution of the Link-Belt Company, ought to prove of distinct advantage to the customers of both.

There will be no modifications of the policies of the Caldwell plant, no impairment of its service to its customers, no change in the diversity and character of its product.

The plant management will remain substantially the same, and the new owners like the old will proceed on the theory that the good will of its customers is the company's best asset.

LINK-BELT COMPANY

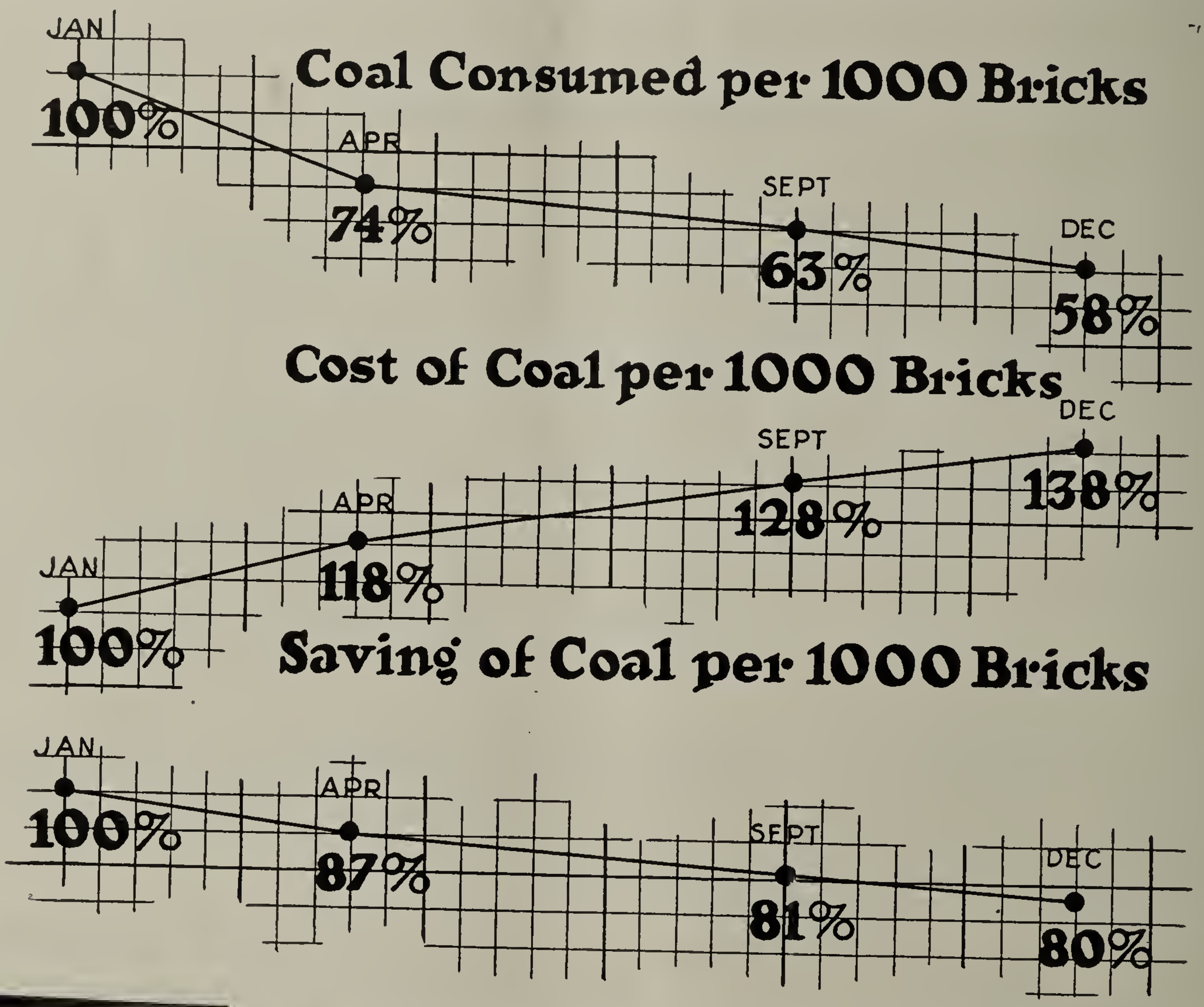
Charles Piez

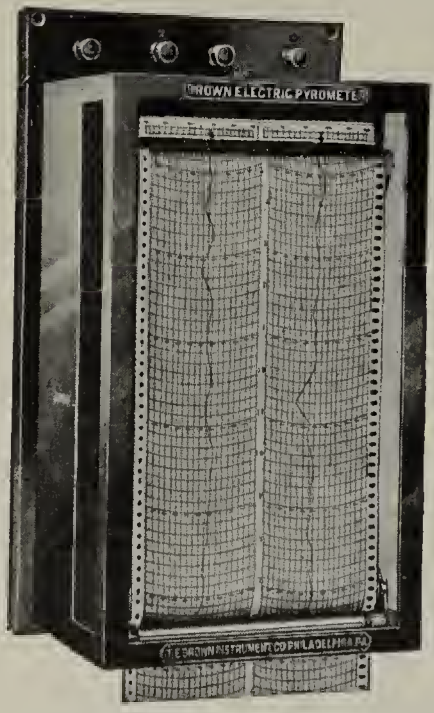
President.

LINK-BELT COMPANY PHILADELPHIA CHICAGO INDIANAPOLIS

759

20% of Fuel Costs Saved in spite of 38% Increase in Price





Brown Duplex Recording Pyrometer, which records day and night kiln temperatures.

Do Your Coal Costs of Last Year Show This Saving?

20% of fuel costs saved in spite of 38% increase in price is the record of one of the largest brick plants in the Middle West for 1920.

Previous to 1920, this Company had burned brick in the old hit or miss method of guessing kiln temperatures. In January a Brown Pyrometer equipment was installed and the record shows a 20% saving was made after the Pyrometers had been installed one year.

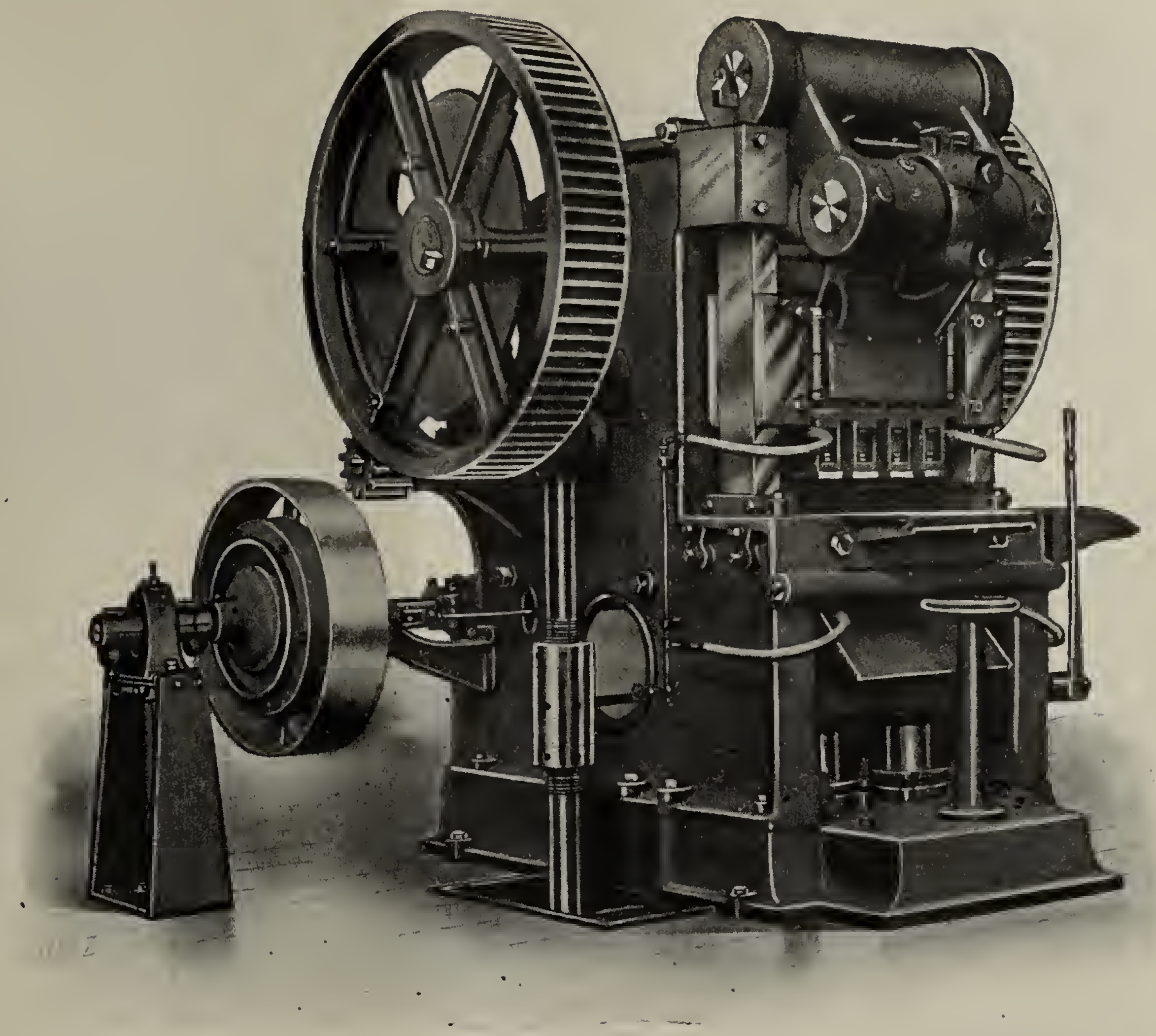
If a Brown Pyrometer Equipment could accomplish this enormous saving on coal bills for this company—it possibly can do the same for you.

Write us a few lines, outlining your equipment, and our Pyrometer Engineers will explain in detail, savings that are accomplished in Brick burning by the use of Pyrometers, and without any obligation, will quote you on a Brown Pyrometer Equipment for your Plant. Address the Brown Instrument Company, 4503 Wayne Ave., or District Offices, New York, Pittsburgh, Cleveland, Chicago, Detroit, St. Louis, Denver, San Francisco, Los Angeles and Montreal.

Brown Pyrometers

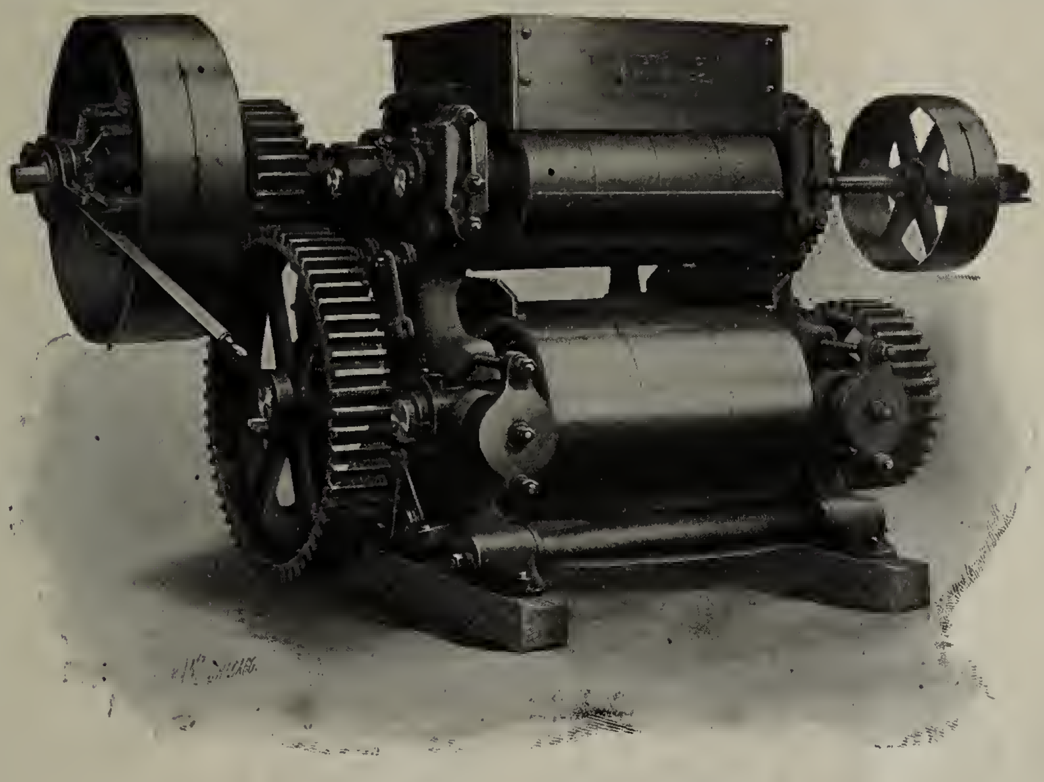
American Model "C" Dry Press

For dry press brick the American Model "C" Press is highly recommended. It has excess strength, simplicity and speed. It makes brick of superior quality, dense with true edges and smooth sides. Get the Model "C" Bulletin, it's free for the asking.



American Model "C" Dry Press

American No. 10 "D" Crusher



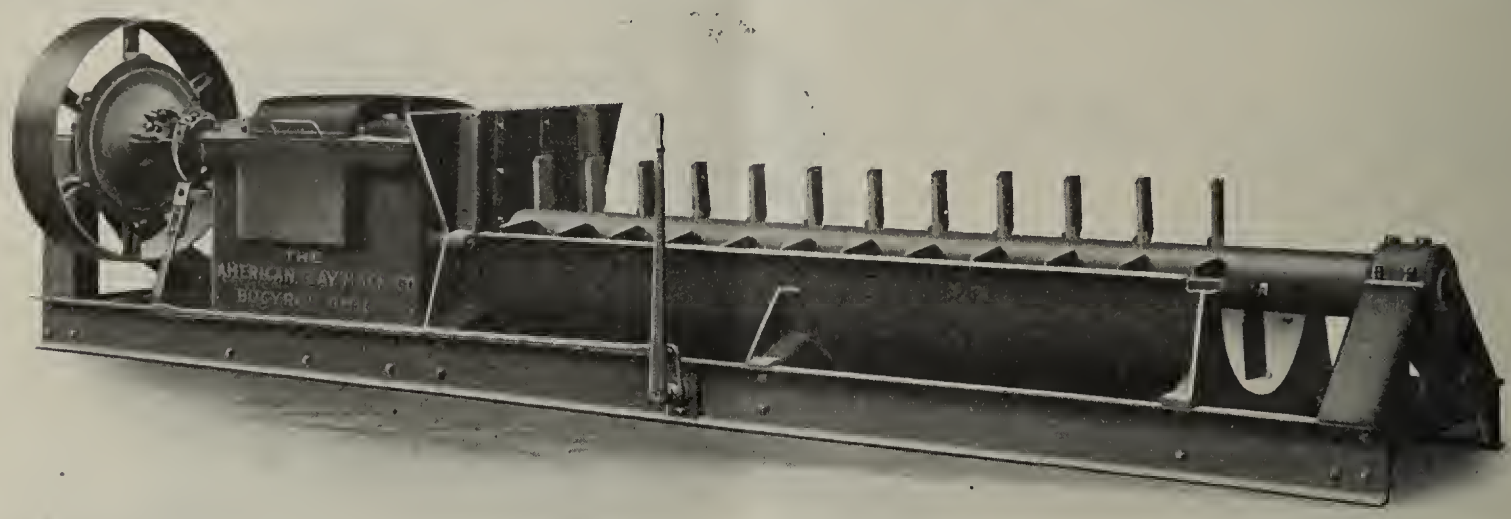
American No. 10 "D" Crusher

This American No. 10-D Crusher is a favorite with Clay Plant owners. It has many superior features and will be found dependable to the limit. It's built for capacity and will be found extremely simple and satisfactory. Get the No. 10-D bulletin for all the details.

The Hadfield-Penfield Steel Company, Bucyrus, Ohio

Formerly The American Clay Machinery Co.

American No. 354 Granulator



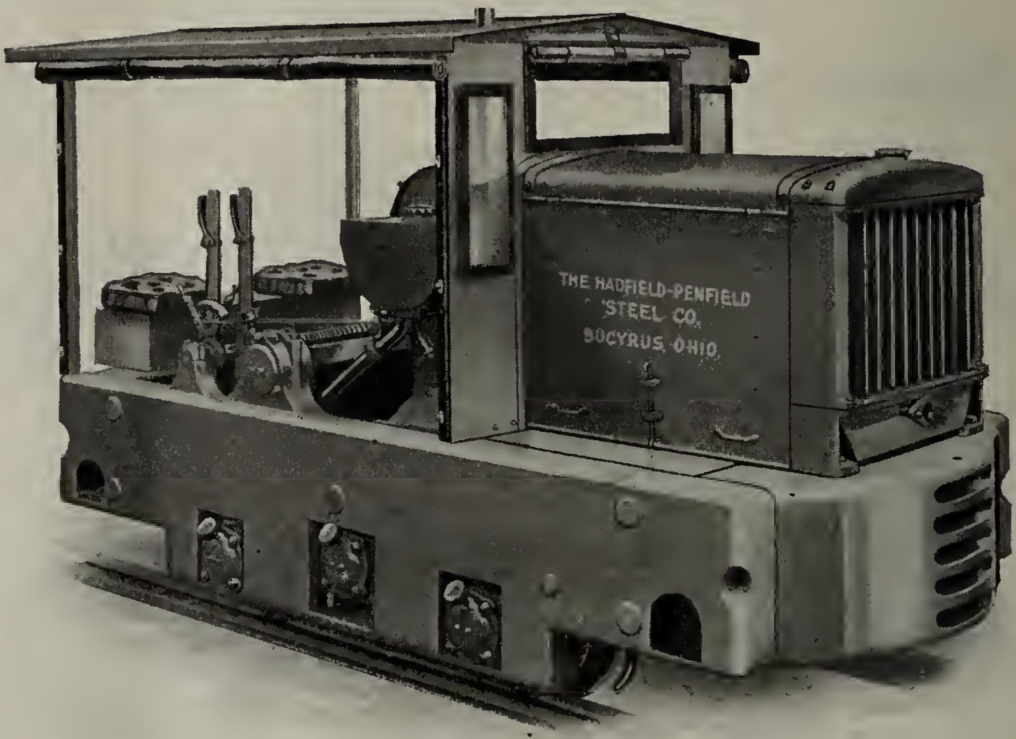
American No. 354 Granulator

The American No. 354 Granulator is a superb machine. It is splendidly built and is thoroughly reliable for producing a maximum output of well prepared clay. It will pay you to get posted on the superior qualities of this machine. We have a Bulletin, No. 354, which will tell you all about it. Drop us a line asking for this bulletin and particulars about any clay working machinery or appliances in which you may be interested. We build them all.

American Gas-O-Motive

The American Gas-O-Motive is the Clay Worker's best friend when it comes to reducing clay haulage cost.

It is built to haul heavy loads and to negotiate reasonable grades. We suggest that you get in touch with us on this haulage proposition. We want to show you one of these Gas-O-Motives on the job.



American Gas-O-Motive

THE HADFIELD-PENFIELD STEEL CO.

Formerly The American Clay Machinery Co.

BUCYRUS, OHIO

Gasoline Locomotive Sales Dept., 404 Hippodrome Bldg., Cleveland, Ohio

Trade Names Now in Use
on Face Brick and Other Clay Products

The purpose of this directory is two-fold: it serves to prevent a manufacturer from adopting a trade-name that is already in use—and it also helps manufacturers who use it to establish priority of claim to a name.

ALLIANCE RUFFS—Alliance (O.) Brick Co.
ALUMINITE—The Lock Haven Fire Brick Company, Lock Haven, Pa.
ALUMINITE—The Stowe-Fuller Co., Cleveland, Ohio.
ARKATEX—Southern Building Products Co., Little Rock, Ark.
ARMOR—Greenpoint Fire Brick Co., Brooklyn, N. Y.
ART-TEX—W. E. Loomis, Sherbrooke, P. Q.
ARTISTICO—Capital Clay Co., Des Moines, Ia.
ARTBRIQUE—Yingling-Martin Brick Co., Johnsonburg, Pa.
ATHENA—Hocking Valley Fire Clay Co., Nelsonville, Ohio.
BABYLONIAN—The Standard Brick Company, Crawfordsville, Ind.
BEAVERCLAY—Beaver Clay Mfg. Co., New Galilee, Pa.
BISHOP COLONIAL—Southern Brick and Tile Company, Louisville, Ky.
BRADFORD HOLLOW BUILDING TILE—Bradford Brick & Tile Co., Bradford, Pa.
BRADFORD REDS—Bradford Brick & Tile Co., Bradford, Pa.
BRADFORD RUFFS—Bradford Brick & Tile Co., Bradford, Pa.
BUCKEYE—Dover Fire Brick Co., Cleveland, Ohio.
BURLAP—Key-James Brick Co., P. O. Alton Park, Tenn.
BURMAH—Walkers Mills Stone and Brick Co., Pittsburgh, Pa.
CALEDONIAN—Fiske & Co., Inc., Boston and New York.
CLAYTEX—Walton N. Cable, New York City.
CLAYTON MISSIONS—Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash.
CLAYTON VELVETS—Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash.
CLOISTER—Western Brick Co., Danville, Ill.
COLONIAL—Capital Clay Co., Des Moines, Ia.
CONCO CLAY PRODUCTS—H. D. Conkey & Co., Mendota, Ill.
CORALTONE—Harris Brick Co., Zanesville, O.
CORALROSE—Harris Brick Co., Zanesville, O.
COLUMCLAY—Columbia Clay Co., Columbia, S. C.
CORDOVA (Roofing Tile)—Gladding, McBean & Co., San Francisco and Lincoln, Cal.
CORSWEVE—Thomas Moulding Brick Co., Chicago, Ill.
CROWN—Green Fire Brick Co., A. P., Mexico, Mo.
DENISON—Mason City (Ia.) Brick & Tile Co.
DE LUXE—The Standard Brick Company, Crawfordsville, Ind.
DIAMOND—Missouri Fire Brick Co., St. Louis, Mo.
DORIC—Western Brick Co., Danville, Ill.
DOVER—Dover Fire Brick Co., Cleveland, O.
DUNBAR—United Refractories Co., Uniontown, Pa.
EGYPTIAN PAVING BLOCK—Murphysboro (Ill.) Paving Brick Co.
E. F. B. CO.—Elk Fire Brick Co., St. Marys, Pa.
ELKCO—Elk Fire Brick Co., St. Marys, Pa.
ELKCO SPECIAL—Elk Fire Brick Co., St. Marys, Pa.
ELK STEEL—Elk Fire Brick Co., St. Marys, Pa.
EMBOSTEX—Streator (Ill.) Brick Co.
EMPIRE—Green Fire Brick Co., A. P., Mexico, Mo.
EMPIRE—The Minor Fire Brick Company, Empire, Ohio.
EMPIRE—Western Brick Co., Danville, Ill.
EVERHARD ANTIQUE—Everhard Co., Massillon, O.
EVERHARD DOUBLE-TEXTURE—Everhard Co., Massillon, O.
EVERHARD FERN-LEAF—Everhard Co., Massillon, Ohio.
EVERLASTING—Mason City (Ia.) Brick & Tile Co.
FALLSTON IRON SPOTS—Fallston Fire Clay Co., Pittsburgh, Pa.
FALLTEX—Fallston Fire Clay Co., Pittsburgh, Pa.
FISKLOCK—Fiske & Co., Inc., Boston and New York.
FRASERCLAY—Fraser Brick Co., Dallas, Texas.
F. R. C. CHROME—Federal Refractories Company, Alexandria, Pa.
F. R. C. MAGNESITE—Federal Refractories Company, Alexandria, Pa.
F. R. C. SILICA—Federal Refractories Company, Alexandria, Pa.
FUL-TONE—Fultonham-Texture Brick Co., East Fultonham, Ohio.
FULTONHAM-TEXTURE — Fultonham-Texture Brick Co., East Fultonham, Ohio.
GOTHIC—Western Brick Co., Danville, Ill.
GREENDALES—Hocking Valley Pro. Co., Columbus, O.
GREENDALE RED RUGS—Hocking Valley Pro. Co., Columbus, O.
GREENDALE RUGS—Hocking Valley Pro. Co., Columbus, O.
GRID—Fiske & Co., Inc., Boston and New York.
HAWK-I-TEX—Capital Clay Co., Des Moines, Ia.
HI-GRADE—Southwest Building Supply Co., Springfield, Mo.
HOCKING BLOCK—Hocking Valley Brick Co., Columbus, O.
HOLLAND SPLIT—Thomas Moulding Brick Co., Chicago, Ill.
HOMESPUN—Thomas Moulding Brick Co., Chicago, Ill.
HY-TEX—Hydraulic-Press Brick Co., St. Louis, Mo.
INTERLOCKING TILE—Fraser Brick Co., Dallas, Texas.
IRONCLAY—Iron Clay Brick Co., Columbus, O.
KEYSTONE—Elk Fire Brick Co., St. Marys, Pa.
LADLE—The Zoar Fire Clay Company, Zoar, Ohio.
LAKE SHORE MINGLED SHADES—The Burton-Townsend Co., Zanesville, Ohio.
LAKE SHORE BLOCK—The Burton-Townsend Co., Zanesville, Ohio.
L. H. STEEL—The Lock Haven Fire Brick Company, Lock Haven, Pa.
LO-TEX BRICK—The Longmont (Colo.) Brick & Tile Co.
LO-TEX TILE—The Longmont (Colo.) Brick & Tile Co.
LOXALL—Exner, J. E., Coffeyville, Kan.
M. D. ELK—Elk Fire Brick Co., St. Marys, Pa.
MEDAL BLOCK—Medal Paving Brick Co., Cleveland, Ohio.
MEXICO, MO.—Green Fire Brick Co., A. P., Mexico, Mo.
MINOR—The Minor Fire Brick Company, Empire, Ohio.
MITCHELL EXTRA—Mitchell Clay Mfg. Co., St. Louis, Mo.
MITCHELL SUPERIOR—Mitchell Clay Mfg. Co., St. Louis, Mo.
MITCHELL NO. 1—Mitchell Clay Mfg. Co., St. Louis, Mo.
MOBRIQUE—Harris Brick Co., Zanesville, O.
MONTEZUMA RED FACE—Montezuma (Ind.) Brick Works.
MOSAIC—Western Brick Co., Danville, Ill.
NATIONAL—The National Fire Brick Company, Strasburg, Ohio.
NAVAJO—Kansas Buff Brick & Mfg. Co., Buffville, Kan.
NO. 1—J. H. Gautier & Co., Jersey City, N. J.
NUVOGUE—Boone (Ia.) Brick, Tile & Pav. Co.
OIL—J. H. Gautier & Co., Jersey City, N. J.
OLD ROSE COLONIAL—Montezuma (Ind.) Brick Works.
OLEAN BLOCK—Sterling Brick Co., Olean, N. Y.
OXFORD—Southern Brick and Tile Company, Louisville, Ky.
PENN.—The Lock Haven Fire Brick Company, Lock Haven, Pa.
PERSIAN SPLIT—Thomas Moulding Brick Co., Chicago, Ill.
POS-TEX—Poston Brick Co., Springfield, Ill.
"POTTRY"—B. Mifflin Hood Brick Co., Atlanta, Ga.
PROMENADE—Yingling-Martin Brick Co., Johnsonburg, Pa.
RAINBOW — Burton Townsend Co., The, Zanesville, Ohio.
RED ROCK RUFFS—Auburn Shale Brick Co.,
ROTEX—Elk Fire Brick Co., St. Marys, Pa. Gettysburg, Pa.
ROYAL HA-SIERS—Decatur Brick Mfg. Co., Decatur, Ill.
RUFTEX—Thomas Moulding Brick Co., Chicago.
RUG—Hocking Valley Pro. Co., Columbus, O
RUSTIQUE ORIENTAL—Martinsville (Ind.) Bk. Co.
ST. MARYS—Elk Fire Brick Co., St. Marys, Pa.
SHALE-TEX—Streator (Ill.) Brick Co.
SIL-O-CEL—Celite Products Co., New York City.
SPECIAL—Green Fire Brick Co., A. P., Mexico, Mo.
SPEEDWAY BLOCK—Alliance (O.) Clay Prod. Co.
STANDARD—Green Fire Brick Co., A. P., Mexico, Mo.
STANDARD—The National Fire Brick Company, Strasburg, Ohio.
TAPESTRY—Fiske & Co., Inc., Boston and New York.
TAVERN BRICK—Metropolitan Pav. Brick Co., Canton, O.
TEXTUR—Thomas Moulding Brick Co., Chicago, Ill.
TIFFANY—Thomas Moulding Brick Co., Chicago, Ill.
TORONTO—Toronto Fire Clay Co., Toronto, O.
TOWNSEND BLOCK—The Burton-Townsend Co., Zanesville, Ohio.
TURKESTAN—Beaver Clay Mfg. Co., New Galilee, Pa.
TURKO—Rochester (Pa.) Clay Products Co.
UNITED--United Refractories Co., Uniontown, Pa.
U. R. CO.—United Refractories Co., Uniontown, Pa.
U-TEX—Fultonham-Texture Brick Co., East Fultonham, Ohio.
VERTEX—Beaver Clay Mfg. Co., New Galilee, Pa.
VITRI-CRAFT—Schuylkill Valley Vitrified Products Co., Oaks, Montgomery Co., Pa
VOLCANIC—Beaver Clay Mfg. Co., New Galilee, Pa.
WIRE-CUT-LUG BRICK—Dunn Wire-Cut Lug Brick Co., Conneaut, Ohio.
ZOAR—The Zoar Fire Clay Company, Zoar, Ohio.

Brick and Clay Record Buyers' Directory of Manufacturers of Machinery, Equipment and Supplies

See Table of Contents Page for Advertisers Directory

Aerial Tramways.
Leschen & Sons Rope Co., A.

Air Receivers
Frost Manufacturing Co.

Anti-Friction Metals.
Toronto Fdry. & Mach. Co.

Ash Handling Equipment.
Godfrey Conveyor Co.

Auditing
Ernst & Ernst.

Automatic Stove Rooms
Proctor & Schwartz

Automobile Trucks.
Packard Motor Car Co.

Babbitt Metal
Toronto Fdry. & Mach. Co

Barium Carbonate
Roessler Hasslacher Chem. Co.

Barrel Trucks
Barrett-Cravens Co.

Barytes, Carbonate of,
Roessler Hasslacher Chem. Co.

Barrows and Trucks.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
Lakewood Engineering Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Potts & Co., C. & G.
Robinson, Frank H.
Steele & Sons, J. C.
Toronto Fdry. & Mach. Co.
Weller Mfg. Co.

Bearings.
Caldwell & Son Co., H. W.
Dodge Sales & Engineering Co.
Hill Clutch Co., The

Belting.
Gandy Belting Co.
Main Belting Co.
Scandinavia Belting Co.
Stanley Belting Co.
Weller Manufacturing Co.

Belting, Silent Chain.
Link-Belt Company.

Belt Conveyors.
Caldwell & Son Co., H. W.
Gandy Belting Co.
Hadfield-Penfield Steel Co.
Lancaster Iron Works, Inc.
Link-Belt Company.
Manufacturers Equipment Co.
Potts & Co., C. & G.
Scandinavia Belting Co.
Stanley Belting Co.
Weller Mfg. Co.

Belt Fasteners
Crescent Belt Fastener Co.

Belt Hooks and Rivets
Crescent Belt Fastener Co.

Belt Lacing
Crescent Belt Fastener Co.

Belt Tighteners.
Hill Clutch Co., The
Weller Manufacturing Co.

Boiler Cleaners—Metal Treatment.

Boiler Setting Cement.
Jointless Fire Brick Co.

Boilers.
(See Engines and Boilers)
Frost Manufacturing Co.

Boiler Insulation.
Armstrong Cork & Insulation Co.
Celite Products Co.

Bookkeeping Systems
Ernst & Ernst

Brick Conveyors.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Link-Belt Company.
Manufacturers Equipment Co.
Mathews Gravity Carrier Co.
Potts & Co., C. & G.

Brick Handling Machinery.
Hadfield-Penfield Steel Co.
Lakewood Engineering Co.
Mathews Gravity Carrier Co.
Portable Machy. Co.

Brick (insulating).
Celite Products Co.

Brick Machines.
(See "Dry Press," "Stiff-Mud" and "Soft-Mud.")

Buckets, Dredging and Excavating.
Ball Engine Co.
Bucyrus Company
Lakewood Engineering Co.
Marion Steam Shovel Co., The

Buckets, Elevator.
Hendrick Manufacturing Co.
Link-Belt Company
Mullins Body Corp.
Robinson, Frank H.
Weller Manufacturing Co.

Burning System
Boss Engineering Co.
Fred Gleckler

Cables.
Leschen & Sons Rope Co., A.
Robinson, Frank H.

Cable Conveyors.
Caldwell & Son Co., H. W.
Lancaster Iron Works, Inc.
Leschen & Sons Rope Co., A.

Carbonate of Barytes.
Roessler Haslacher Chem. Co.

Cars.
Chase Fdry. & Mfg. Co.
Fate-Root-Heath Co.
Hadfield-Penfield Steel Co.
Hendrick Manufacturing Co.
International Clay Mchy. Co
Koppel Industrial Car and Equipment Co
Lakewood Engineering Co.
Lancaster Iron Works.
Manufacturers Equipment Co.
Robinson, Frank H.
Steele & Sons, J. C.
Toronto Fdry. & Machine Co.
Watt Mining Car Wheel Co.
Weller Mfg. Co.

Car Movers.
Caldwell & Son Co., H. W.
Marion M., Fdry. & S. Co.
Weller Manufacturing Co.

Castings.
Bonnot Co.
Caldwell & Son Co., H. W.
Chambers Bros. Co.
Dodge Sales & Engineering Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co
Lancaster Iron Works.
Link-Belt Company.
Manufacturers Equipment Co.
Marion Steam Shovel Co.
Potts & Co., C. & G.
Steele & Sons, J. C.
Stevenson Co.
Toronto Fdry. & Mach. Co.

Cements (Insulating).
Celite Products Co.

Chain
Caldwell & Son Co., H. W.
Link-Belt Company.
Weller Manufacturing Co.

Clamshells.
Lakewood Engineering Co.
Osgood Company, The

Clay Feeders and Mixers.
Bonnot Company.
Fate Co., The J. D.
Chambers Bros. Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co
Lancaster Iron Works.
Manufacturers Equipment Co.
Marion Mach., Fdry Sup. Co.
Potts & Co., C. & G.
Robinson, Frank H.
Steele & Sons, J. C.
Stevenson Co.
Weller Manufacturing Co.

Clay Gatherers.
Eagle Iron Works.
Sauerman Bros.
Schofield-Burkett Cons. Co.

Clutches.
Caldwell & Son Co., H. W.
Caldwell Co., W. E.
Hadfield-Penfield Steel Co.
Hill Clutch Co.
International Clay Mchy. Co
Lancaster Iron Works, Inc.
Link-Belt Company.
Weller Manufacturing Co.

Coal.
Big Creek Coals, Inc.
Bledsoe Co., Walter F.
Farley-Hopkins Co.
O'Gara Coal Co.
Peabody Coal Co.
Union Fuel Co.

Coal Handling Machinery.
Godfrey Conveyor Co.
Columbus Conveyor Co.
Hendrick Manufacturing Co.
Link-Belt Company.
Weller Manufacturing Co.

Coal Pulverizers.
Bonnot Co.
Gruendler Patent Crusher & Pulv. Co.

Conveying Machinery.
(Also see Elevators and Conveyors)
Columbus Conveyor Co.
Crossley Machine Co.
Godfrey Conveyor Co.
Potts & Co., C. & G.
Weller Manufacturing Co.

Conveyors (Portable).
Barber-Greene Co.
Lancaster Iron Works, Inc.
Portable Machinery Co.

Cost Accounting
Ernst & Ernst

Couplings (Shaft and Friction).
Hill Clutch Co., The

Cranes, Jib.
Godfrey Conveyor Co.

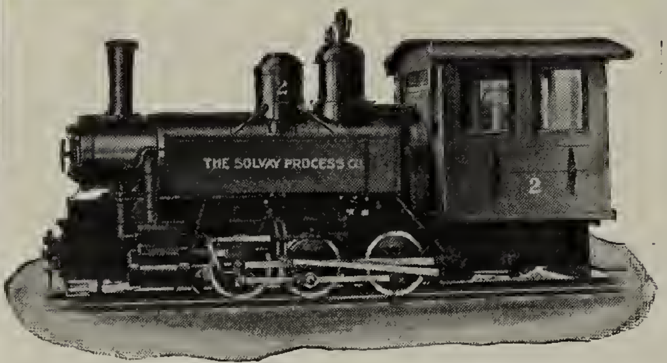
Cranes, Locomotive.
Ball Engine Co.
Bucyrus Company
Link-Belt Company
Marion Steam Shovel Co., The
Osgood Co.

Cranes, Portable
Barrett-Cravens Co.

Crushers and Pulverizers.
American Pulverizer Co.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root-Heath Co.
Gruendler Patent Crusher & Pulv. Co.
Freese & Co., E. M.
Frost Manufacturing Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Robinson, Frank H.
Stevenson Co.
Toronto Fdry. & Mach. Co.

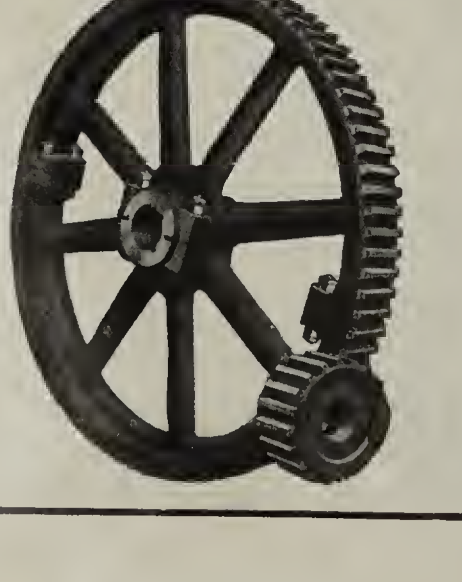
Cutters, Automatic Rotary.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Claycraft Service Co.
Fate-Root-Heath Co.

Pulls Heavier Trains on Level Track or Steep Grades



POWERFUL—SPEEDY
4 AND 6 WHEEL TYPES
ANY GAUGE

The Davenport Gear Drive Locomotives
will handle your work most successfully
Builders of
ROD AND GEAR DRIVE LOCOMOTIVES
DAVENPORT LOCOMOTIVE WORKS
DAVENPORT, IOWA



GEARS

Spurs, Bevels, Miters, Worms and Worm Wheels

Made of cast iron, semi-steel, brass and bronze. Machine molded gears have true rims, accurately pitched and uniform teeth, backed by well proportioned arms and hubs, work smoothly, and without vibration, save power and stand the test of continued severe service.

We are equipped to furnish gears with machine cut teeth.

ELEVATING, CONVEYING and POWER TRANSMITTING MACHINERY
H. W. CALDWELL & SON CO., Chicago, 17th St. and Western Ave.
NEW YORK: Fulton Bldg., 50 Church St. DALLAS, TEX.: 709 Main St.

Gear and Friction Driven Gasoline Locomotives—2½ to 25 Tons on Drive Wheel

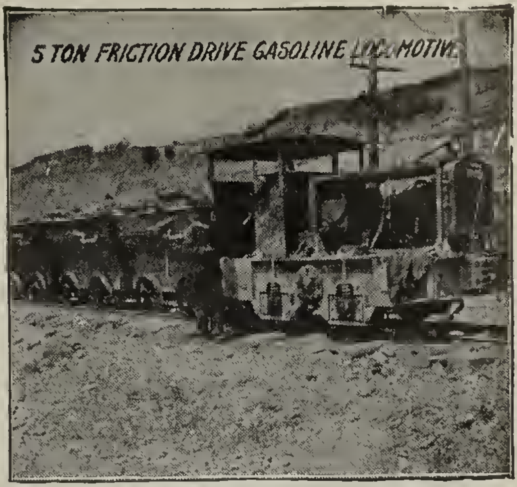
WHITCOMB LOCOMOTIVES

IT WILL PAY YOU TO GET OUR PROPOSITION BEFORE YOU BUY

GEO. D. WHITCOMB CO.

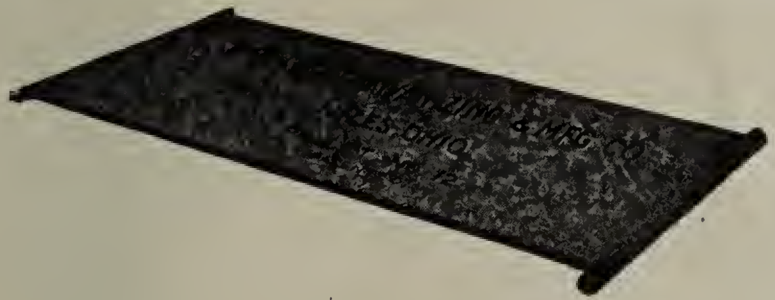
MAIN OFFICE AND WORKS

ROCHELLE, ILLINOIS
U. S. A.



Storage Battery Locomotives—1 to 8 Tons On Drive Wheels

Style No. 12



A Time and Money Saver

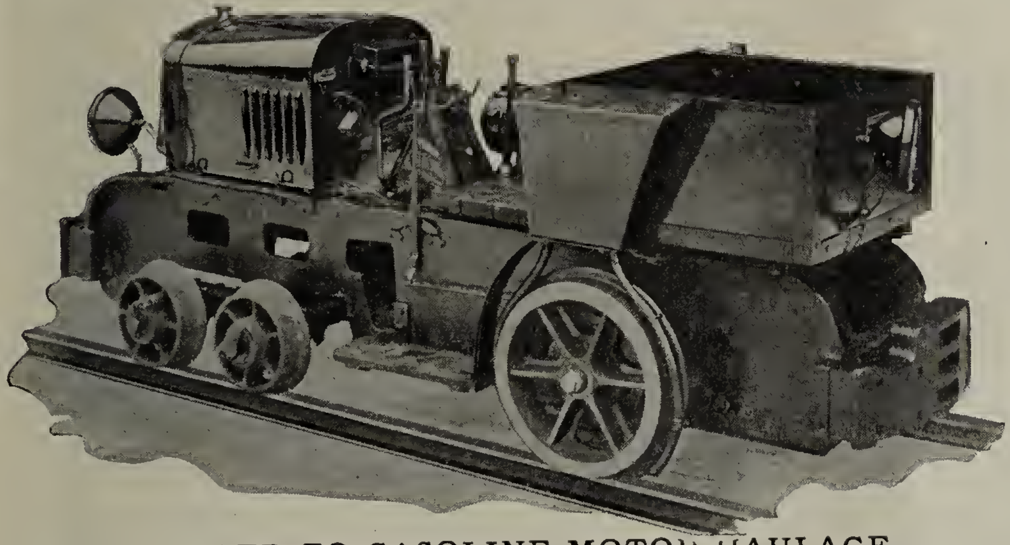
We make a Steel Pallet that is just exactly what your class of work requires

Our line of manufacture covers the entire Steel Pallet field.

No matter what pattern you need. If you require something quite out of the ordinary, so much the better. We can make it right, deliver it promptly and for the least price. Because we are specialists in this particular line.

Simply let us know what you need or send for complete descriptive matter.

The Ohio Galvanizing & Mfg. Co.
Niles, Ohio



APPLIED TO GASOLINE MOTOR HAULAGE

Ford Efficiency

All the advantages of Ford Service, upkeep and efficiency combined in this heavy cast iron motor.

We use new Ford Ton Truck power plant thruout motor, transmission, and overhead worm drive.

In addition;—our special auxiliary reverse transmission giving you the same speeds and pulling power in reverse as forward.

Front pony truck construction makes bad curves easy.

Where loads and grades are not excessive the machine absolutely is in a class by itself, doing all the work of a $5000 motor at a fraction of the cost.

No matter what your Haulage Proposition—Get the facts from Brookville first.

BROOKVILLE TRUCK & TRACTOR CO.
Brookville, Pa., U. S. A.

GOOD USED EQUIPMENT WANTED—

The demand is greater than the available supply. Look over your plant, see what machinery is not being used, or which you will replace with larger capacity, and then advertise in "Brick and Clay Record" Classified Department. Published every other Tuesday.

BRICK AND CLAY RECORD, 610 Federal St., Chicago, Ill.

Buyers' Directory of Manufacturers—Continued

Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Marion M., Fdry. & S. Co.
Robinson, Frank H.
Steele & Sons, J. C.

Cutting Wires.

Manufacturers Equipment Co.
Robinson, Frank H.

Dies.

Bonnot Co.
Chambers Bros Co
Crossley Machine Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Robinson, Frank H.
Steele & Sons, J. C.
Stevenson Co.
Toronto Fdry. & Mach. Co.
Weller Mfg. Co.

Digger.

Bay City Dredge Works.
Buckeye Traction Ditcher Co
Bucyrus Company
Marion Steam Shovel Co.

Digging Machinery.

Ball Engine Co.
Bay City Dredge Works.
Bucyrus Company
Hadfield-Penfield Steel Co.
Lakewood Engineering Co.
Link-Belt Company.
Marion Steam Shovel Co.
Osgood Company.
Sauerman Bros.
Schofield-Burkett Cons. Co.
Thew Shovel Co.

Disintegrators.

Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Crossley Machine Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Marion M. Fdry & Sup. Co.
Potts & Co., C. & G.
Robinson, Frank H.
Steele & Sons, J. C.

Ditching Machines.

Ball Engine Co.
Bay City Dredge Works.
Buckeye Traction Ditcher Co.
Bucyrus Company
Marion Steam Shovel Co., The
Osgood Company, The

Dredges.

Bay City Dredge Works.
Bucyrus Company
Marion Steam Shovel Co., The
Osgood Company, The

Drives (Silent Chain).

Link-Belt Company

Dryers.

Bonnot Co.
Ross Engineering Co.
Claycraft Service Co.
Crossley Machine Co.
Fate-Root-Heath Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works.
Manufacturers Equipment Co.
Philadelphia Drying Machinery Co.
Proctor & Schwartz, Inc.
Robinson, Frank H.
Steele & Sons, J. C.
Wellington Machine Co.

Dryers (Sand)

Bonnot Company.
Fate-Root-Heath Co.
Hadfield-Penfield Steel Co.
Lancaster Iron Works, Inc.
Stevenson Co.

Dry Pans.

Bonnot Co.
Chambers Bros. Co.
Eagle Iron Works.
Fate-Root-Heath Co.
Freese & Co., E. M.
Frost Manufacturing Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co
Robinson, Frank H.
Stevenson Co.
Toronto Fdry. & Mach. Co.

Dry Press Brick Machines

Hadfield-Penfield Steel Co.
Potts & Co., C. & G.
Robinson, Frank H.

Dynamos and Generators

Burke Electric Co.

Electrical Industrial Trucks.

Koppel Industrial Car and Equipment Co
Lakewood Engineering Co.

Elevators and Conveyors.

Bonnot Co.
Caldwell & Son Co., H. W.
Chambers Bros. Co.
Columbus Conveyor Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Gandy Belting Co.
Godfrey Conveyor Co.
Lancaster Iron Works, Inc.
Link-Belt Company.
Main Belting Co.
Manufacturers Equipment Co.
Mathews Gravity Carrier Co.
Robinson, Frank H.
Scandinavia Belting Co.
Stevenson Co.
Toronto Fdry. & Mach. Co
Weller Mfg. Co.

Engineers.

Schaffer Engineering & Equipment Co., The

Engines and Boilers.

Ball Engine Co.
Bonnot Co
Crossley Machine Co.
Freese & Co., E. M.
Frost Manufacturing Co.
Hadfield-Penfield Steel Co.
Manufacturers Equipment Co.
Robinson, Frank H.

Excavating Machinery.

Ball Engine Co.
Bay City Dredge Works.
Bucyrus Company
Portable Machinery Co.
Lakewood Engineering Co.
Link-Belt Company.
Marion Steam Shovel Co., The
Osgood Company, The
Sauerman Bros.
Schofield-Burkett Cons. Co.
Thew Shovel Co.

Excavators, Ditch and Trench.

Bay City Dredge Works.
Buckeye Traction Ditcher Co.
Bucyrus Company
Marion Steam Shovel Co

Excavators, Dragline.

Bucyrus Company
Marion Steam Shovel Co.
Sauerman Bros.
Schofield-Burkett Cons. Co.

Fans.

Bonnot Co.
Freese & Co., E. M.
Garden City Fan Co.
Hadfield-Penfield Steel Co.
Robinson, Frank H.

Feed Water Heaters.

Canton Grate Co.
Freese & Co E M
Frost Manufacturing Co.

Fire Brick

Evans Builders Co.
Stowe-Fuller Co.

Filter Presses.

Bonnot Co
Crossley Machine Co.
Hadfield-Penfield Steel Co.

Flower Pot Machinery.

Baird Machine & Mfg. Co.

Flue Cleaners.

Marion Mach., Fy. & Sup. Co.

Friction Clutches.

Crossley Machine Co.
Sales & Eng. Co.
Hill Clutch Co., The
Weller Manufacturing Co.

Frogs and Switches.

Lakewood Engineering Co.
Robinson, Frank H.
Toronto Fdry. & Mach. Co.

Furnace Insulation.

Armstrong Cork & Insulation Co.
Celite Products Co.

Gas Producers.

International Clay Mchy. Co.
Manufacturers Equipment Co.

Gauges (Vacuum, Pressue and U)

Taylor Instrument Companies

Gears.

Caldwell Co., W. E.
Caldwell & Son Co. H. W.
Crossley Machine Co.
Baird Machine & Mfg. Co.
Dodge Sales & Eng. Co.
Hill Clutch Co., The
Link-Belt Company.
Weller Manufacturing Co.
Westinghouse Electric & Mfg. Co

Gloves

Des Moines Glove Mfg. Co.

Granulators.

Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Steele & Sons, J. C.
Toronto Fdry. & Mach. Co

Grates and Grate Bars.

Canton Grate Co.
Crossley Machine Co.
Hadfield-Penfield Steel Co.
Frost Manufacturing Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co
Marion Mach., Fdry. & S. Co
Robinson, Frank H.
Toronto Fdry. & Mach. Co.

Gravity Carriers.

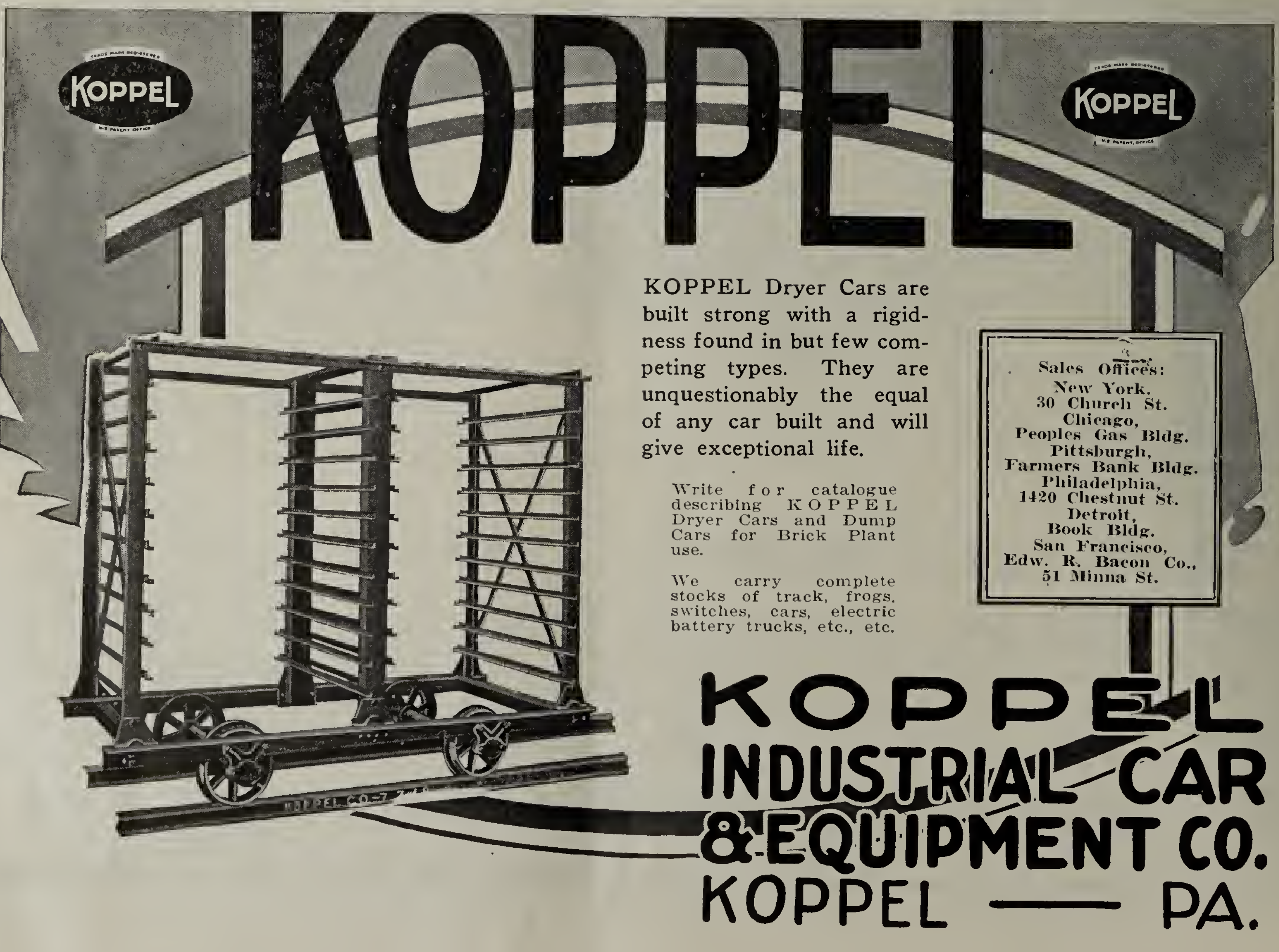
Mathews Gravity Carrier Co

Heat Insulation.

Armstrong Cork & Insulation Co.
Celite Products Co.

Hoists.

Bonnot Co
Brewer & Co., H.
Chambers Bros. Co.
Fate-Root-Heath Co.
Godfrey Conveyor Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc
Link-Belt Company.
Manufacturers Equipment Co
Weller Mfg. Co.


KOPPEL

KOPPEL Dryer Cars are built strong with a rigidness found in but few competing types. They are unquestionably the equal of any car built and will give exceptional life.

Write for catalogue describing KOPPEL Dryer Cars and Dump Cars for Brick Plant use.

We carry complete stocks of track, frogs, switches, cars, electric battery trucks, etc., etc.

Sales Offices:
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30 Church St.
Chicago,
Peoples Gas Bldg.
Pittsburgh,
Farmers Bank Bldg.
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1420 Chestnut St.
Detroit,
Book Bldg.
San Francisco,
Edw. R. Bacon Co.,
51 Minna St.

KOPPEL
INDUSTRIAL CAR
& EQUIPMENT CO.
KOPPEL —— PA.

Des Moines Gloves

Would You Pick Up a Red Hot Coal with Your Bare Hands?

Of course not—BUT a moment's consideration shows that the men who handle your ware experience a sensation similar to this if they are forced to work with unprotected hands. After handling several hundred brick or hollow tile a man's hands become full of cuts and bruises. Each piece he touches adds pain to his sore hands. Likewise he works slower. He also drops more ware, being unable to grip it tightly.

Save This Uncalled-For Waste!

Put a pair of TUF-TANNED KANTRIP MITTENS or a pair of HAND PADS of the same material, on your men's hands. They Kant rip. Made of the toughest leather.

If you are not convinced that they are really valuable to your yard efficiency, let us send you a dozen pairs on trial. It will not cost you a cent—AND if after trying a pair out you are not absolutely satisfied with the results, just return the remaining pairs at our expense and used ones won't cost a cent.

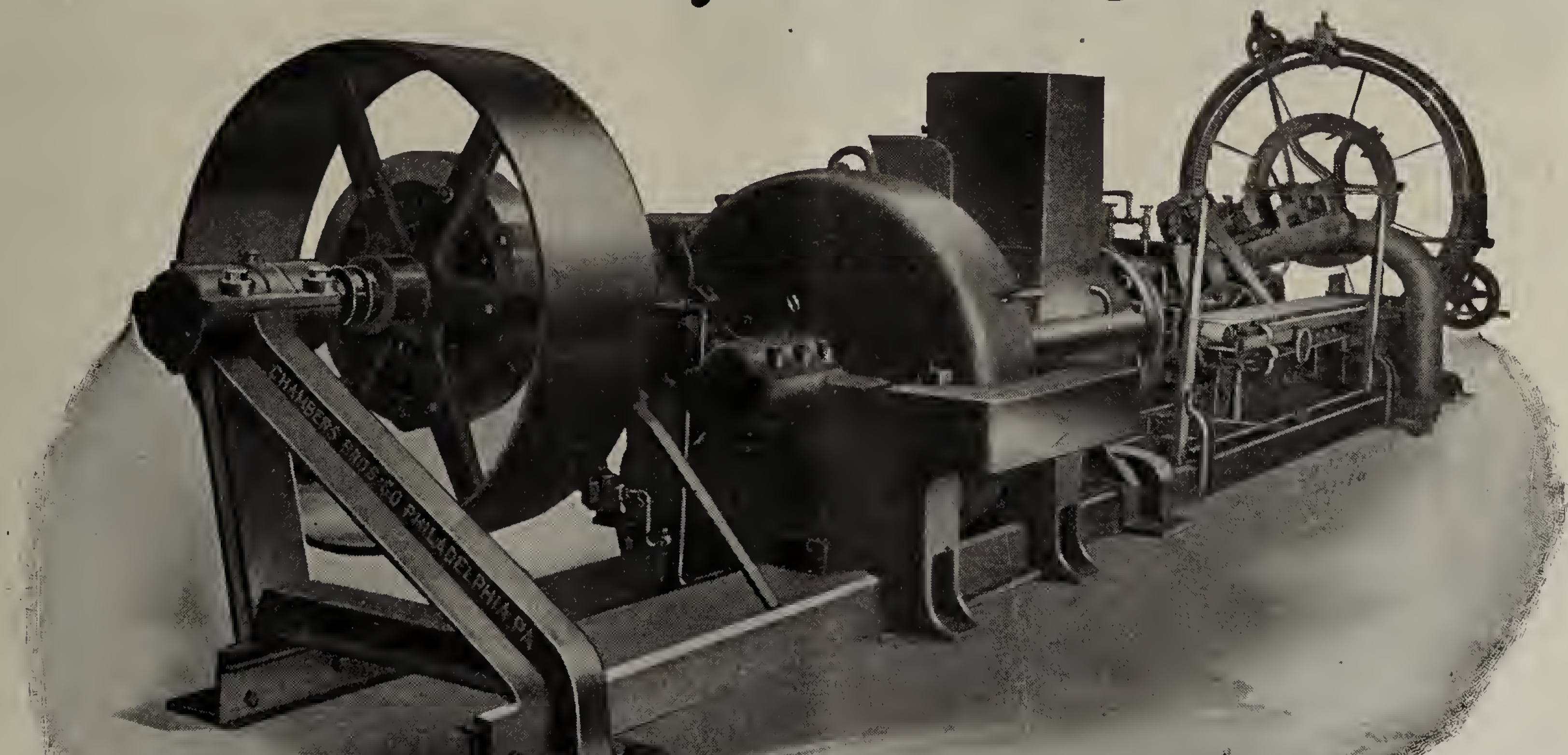
Don't delay. Write today.

$5.00 per dozen
$54.00 per gross

DES MOINES GLOVE AND MFG. CO.
508 Fourth Street - Des Moines, Iowa

$9.00 per dozen $100.80 per gross

The Chambers Keystone Auger Machine



This Outfit Has Produced 200 Tons of Building Tile in 8 Hours.

CHAMBERS BROS. CO., Philadelphia, Pa.

Buyers' Directory of Manufacturers—Continued

Hollow Brick Machinery.

Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Manufacturers Equipment Co.
Robinson, Frank H.
Steele & Sons, J. C.
Stevenson Co.

Hydrometers or Moisture Indicators.

Taylor Instrum't Companies.
Lancaster Iron Works.
Manufacturers Equipment Co.

Hygrometers

Taylor Instrument Companies

Insulating Materials (Heat).

Armstrong Cork & Insulation Co.
Celite Products Co.

Kilns.

American Dressler Tunnel Kilns, Inc.
Boss Engineering Co., J. C.
Chambers Bros. Co.
Fate-Root-Heath Co.
Hadfield-Penfield Steel Co.
International Clay Machy. Co.
Manufacturers Equipment Co.
Russell Engineering Co.
Schaffer Eng. & Equip. Co.

Kiln Accessories.

Caldwell Co., Inc., W. E.
Fate-Root-Heath Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Robinson, Frank H.
Tecktonius Mfg. Co.

Kiln Expert.

Haigh, L.

Kiln Insulation.

Armstrong Cork & Insulation Co.
Celite Products Co.
Jointless Fire Brick Co.

Lift Trucks

Barrett-Cravens Co.
Lakewood Engineering Co.

Loaders (Wagon and Truck).

Barber-Greene Co.
Link-Belt Company.
Sunbury Mfg. Co.

Locomotives.

Brookville Truck & Tractor Co.
Davenport Locomotive Works.
Fate-Root-Heath Co.
Goodman Mfg. Co.
Hadfield-Penfield Steel Co.
Lakewood Engineering Co.
Westinghouse Electric & Mfg. Co.
Whitcomb Co., Geo.

Locomotive Cranes.

Ball Engine Co.
Bucyrus Company
Link-Belt Company
Marion Steam Shovel Co.
Osgood Company, The

Manganese.

Hy-Grade Manganese Co.
Roessler & Hasslacher Chemical Co.

Mangles

Philadelphia Drying Machy. Co
Proctor & Schwartz

Mercury Column Vacuum Gages.

Taylor Instrument Companies

Metals (Perforated).

Brewer & Co., H.
Hendrick Manufacturing Co.
Robinson, Frank H.

Molds.

Baird Machine & Mfg. Co.
Bonnot Co.
Crossley Machine Co.
Hadfield-Penfield Steel Co.
Lancaster Iron Works.
Manufacturers Equipment Co.

Mold Sanders.

International Clay Mchy Co
Hadfield-Penfield Steel Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Potts & Co., C. & G.

Mortar Colors

Ricketson Mineral Paint Works.

Motors—Electric.

Burke Electric Co.

Motor Trucks.

Packard Motor Car Co.

Oil Storage & Pumping Systems.

Hoppin & Co., C. A.

Oil Burners.

Hopkins & Co., C. A.
Lancaster Iron Works.
Schurs Oil Burner Co.
Weller Mfg. Co.

Paints (Mineral)

Hy-Grade Manganese Co.
Ricketson Mineral Paint Works.

Pans, Dry Pans, Wet Pans, Clay or Chaser Mills Combination Tempering Pans.

Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Crossley Machine Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Frost Manufacturing Co.
Hadfield-Penfield Steel Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Robinson, Frank H.
Toronto Fdry. & Mach. Co.
Stevenson Company.

Pallets and Trays.

Lancaster Iron Works, Inc.
Ohio Galvanizing & Mfg. Co
Robinson, Frank H.

Perforated Sheet Metal.

Brewer & Co.
Hendrick Mfg. Co.
Harrington & King Perforating Co.
Robinson, Frank H.

Poidometer.

Schaffer Eng. & Equip. Co.

Portable Track.

Manufacturers Equipment Co.
Robinson, Frank H.

Potters' Machinery.

Bonnot Co.
Baird Machine & Mfg. Co.
Fate-Root-Heath Co.

Power Plant Equipment (Complete).

Ball Engine Co.
Bonnot Co.
Burke Electric Co.
Dodge Sales & Engineering Co.
Frost Manufacturing Co.
Hadfield-Penfield Steel Co.
Link-Belt Company.
Weller Mfg. Co.
Westinghouse Electric & Mfg. Co.

Power Transmission.

Caldwell Co., W. E.
Caldwell & Son Co., H. W.
Dodge Sales & Eng. Co.
Hill Clutch Co.
Link-Belt Company.
Weller Manufacturing Co.

Pug Mills.

Baird Machine & Mfg. Co.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co
Claycraft Service Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Manufacturers Equipment Co.
Potts & Co., C. & G.
Robinson, Frank H.
Steele & Sons, J. C.
Stevenson Co.
Toronto Fdry. & Mach. Co.

Pulleys, Cast Iron.

Caldwell & Son Co., H. W.
Dodge Sales & Eng. Co.
Hill Clutch Co., The
Weller Manufacturing Co.

Pulsometer.

Pulsometer Steam Pump Co.

Pulverizers.

American Pulverizer Co.
Crossley Machine Co.
Gruendler Patent Crusher & Pulv. Co.
Robinson, Frank H.
Stevenson Co.
Toronto Fdry. & Mach. Co.

Pump, Dredging and Sand

Bucyrus Company
Marion Steam Shovel Co., The
Pulsometer Steam Pump Co.

Pumps (Steam).

Pulsometer Steam Pump Co

Pyrometers.

Bristol Co.
Brown Instrument Co.
Engelhard, Chas.
Taylor Instrument Companies
Thwing Instrument Co.
Wilson Maeulen Co.

Railroad Ditchers.

Ball Engine Co.
Bucyrus Company
Marion Steam Shovel Co., The
Osgood Co.

Rails (Frogs and Switches).

Lakewood Engineering Co.
Robinson, Frank H.

Rattler.

Bonnot Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Manufacturers Equipment Co

Recording Pressure Gages.

Brown Instrument Co.
Taylor Instrument Companies

Represses.

Bonnot Co.
Chambers Bros. Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
Lancaster Iron Works.
Robinson, Frank H.
Steele & Sons, J. C.

Revolving Screens.

Hendrick Manufacturing Co.
Robinson, Frank H.
Weller Manufacturing Co.

Steele

Number 6 Brick Machine

Capacity—
5,000 to 150,000 Brick Per Day

We developed the single gear machine in large size. Our master gears and pulleys are of large size, which gives the leverage necessary for easy running.

Our end-cut, side-cut and hollow ware machines are the same except for front augers, bushings and dies.

Oil dies are now used more than steam, as in most clays they will give more capacity, take less power, reduce lamination and make better brick.

We can furnish different styles of augers for obstinate clays.

For side-cut brick the double bit auger is generally best; however in some clays a single bit auger works best.

FULL INFORMATION ON REQUEST

J. C. STEELE & SONS, Statesville, No. Carolina

Western Representative: Geo. H. Smith, 3309 E. 37th St., Kansas City, Missouri
Northern Agents: The Manufacturers Equipment Co., Dayton, Ohio

The Name of Our Firm has been changed from C. & A. POTTS & CO. to C. & G. POTTS & CO.

THIS CHANGE IN NAME, HOWEVER, HAS NO EFFECT UPON THE POLICY OF THIS CONCERN. For 40 years, under the name of C. & A. POTTS & CO., we have been manufacturing a complete line of soft mud clayworking machinery—AND NOW under the new name C. & G. POTTS & CO., we will continue along the same line, furnishing brick manufacturers with clay working machinery which gives satisfactory results.

OUR LINE CONSISTS OF

BRICK MACHINES
PUG MILLS
DISINTEGRATORS
MOLD SANDERS
CRUSHERS
CLAY ELEVATORS
BARROWS
DUMP CARS
GRATES
WINDING DRUMS

and in fact Everything to Equip the Modern Clay Plant.

FULL INFORMATION ON REQUEST

C. & G. POTTS & COMPANY, Indianapolis, Ind.

WHAT DO YOU DO?

It is probable that a new problem presents itself to you—or to some of your associates at least once each week. Do you solve it satisfactorily or do you let it slide? Why not insure yourself against such incidents? Start a factory library, fill it with a few choice books that deal with your plant and manufacturing problems. From this list you should be able to select a splendid assortment.

Brick Drying (English edition)	1.00
Bricklaying in Modern Practice	1.20
Bricklaying, Rudiments of Practical	.75
Bricklaying System	4.00
Brick Work (Walker)	.85
Brickwork and Masonry	3.00
Building Construction and Superintendence, Part 1, Masons' Work	6.00
Bungalows, Camps and Mountain Houses	2.00
Ceramic Industries (A Treatise on) E. Bourry	6.00
Clay Plant Construction and Operation	4.00
Clays: Their Occurrence, Properties and Uses	5.00
Clayworkers' Handbook	6.50
Clayworking Problems	1.50
Directory of Dealers (Raw Ceramic Materials)	.50
Engines and Boilers	1.50
Engineering for Land Drainage	2.50
Estimating Frame and Brick Houses	1.50
Finding and Stopping Waste in Modern Boiler Rooms. Vol. 2	1.00
Garages and Motor Boat Houses	2.00
Glazer's Book	$1.25
Hollow Tile Silo, 100 copies	5.00
How to Build Furnace Efficiency	1.50
Land Drainage	2.00
Manufacture of Roofing Tile (English Edition)	1.25
Manufacture of Roofing Tile (Worcester)	.75
Modern Brickmaking	7.00
Observations on Pottery	.60
Powdered Coal as a Fuel	4.50
Practical Farm Drainage	1.75
Producer Gas and Gas Producers	4.00
Rock Excavation, Handbook of	5.00
Scientific Industrial Efficiency	2.00
Scumming and Efflorescence	.50
Silo (The Hollow Tile) 100 copies	5.00
Steam Power	2.50

Select those books that you want the most, and we will send them to you postpaid upon receipt of price. No books sent on approval. All foreign books subject to 15% import duty.

Brick and Clay Record

610 Federal St.,
Chicago, Illinois

Buyers' Directory of Manufacturers—Continued

Roofing Tile Machinery.
Bonnot Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co

Rope Drives.
Dodge Sales & Eng. Co.
Hill Clutch Co., The
Weller Manufacturing Co.

Rope (Wire and Manila).
Leschen & Sons Rope Co.
Manufacturers Equipment Co.
Robinson, Frank H.

Rotary Dryers.
Lancaster Iron Works, Inc.

Sand Lime Brick Machinery.
Hadfield-Penfield Steel Co.
Manufacturers Equipment Co.

Sand Mills
Frost Manufacturing Co.

Scrapers, Plows and Clay Gatherers.
Eagle Iron Wks. Co.
Sauerman Bros.
Schofield-Burkett Cons. Co.
Toronto Fdry. & Mach. Co.

Screens (Clay end Cement).
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root-Heath Co.
Freese & Co., E. M
Hadfield-Penfield Steel Co.
Harrington & King Perforating Co.
Hendrick Mfg. Co.
International Clay Mchy. Co.
Lancaster Iron Works
Link-Belt Company.
Schofield-Burkett Cons. Co.
Stevenson Co
Tyler Co., W. S.
Weller Mfg. Co.

Screens (Including Vibrating)
Tyler Co., W. S.

Screens (Rolled Slot)
Tyler Co., W. S.

Screens (Wire)
Tyler Co., W. S.

Screw Conveyors.
Caldwell & Son Co., H. W.
Weller Manufacturing Co.

Separators
Tyler Co., W. S.

Sewer Pipe Machinery.
Bonnot Co.
Brewer & Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Manufacturers Equipment Co.
Stevenson Company.
Toronto Fdry. & Mach. Co.

Shafting.
Dodge Sales & Eng. Co.
Hill Clutch Co., The
Caldwell & Son Co., H. W.

Shakers (Testing Sieve)
Tyler Co., W. S.

Shale Planer.
Eagle Iron Works.

Sheaves.
Crossley Machine Co.
Hill Clutch Co., The
Weller Manufacturing Co.

Shovels (Power).
Ball Engine Co.
Bay City Dredge Works
Bucyrus Company.
Marion Steam Shovel Co., The
Link-Belt Company
Thew Automatic Shovel Co.
Osgood Co.
Weller Manufacturing Co.

Sieves (Testing)
Tyler Co., W. S.

Silent Chain Drives.
Link-Belt Company.

Sleeves, Nozzles and Runner Brick Machy.
Baird Machine & Mfg. Co.

Soft Mud Brick Machines.
Bonnot Co.
Chambers Bros. Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works.
Manufacturers Equipment Co.
Robinson, Frank H.
Wellington Machine Co.

Sprockets.
Caldwell & Son Co., H. W.
Dodge Sales & Eng. Co.
Link-Belt Company
Weller Manufacturing Co.

Stacks.
Frost Manufacturing Co.
Hendrick Manufacturing Co.
Lancaster Iron Works, Inc.

Stiff Mud Brick Machines.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works, Inc.
Robinson, Frank H.
Steele & Sons, J. C.

Steel Pallets.
Lancaster Iron Works, Inc.
Ohio Galvanizing & Mfg. Co.

Stokers.
Cokal Stoker Co.

Supplies.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co.
Lancaster Iron Works
Manufacturers Equipment Co.
Potts & Co., C. & G.
Robinson, Frank H.
Steele & Sons, J. C.
Stevenson Co.
Toronto Fdry. & Mach. Co.
Weller Mfg. Co.

Tanks and Tank Towers.
Caldwell Co., Inc., W. E.
Crossley Machine Co.
Frost Manufacturing Co.
Hendrick Manufacturing Co.
Lancaster Iron Works, Inc.

Temperature & Pressure Regulators.
Taylor Instrument Companies

Thermometers
Bristol Co.
Brown Instrument Co.
Engelhard, Chas.
Manufacturers Equipment Co.
Taylor Instrum't Companies
Thwing Instrument Co.

Tile Machinery.
Bonnot Co.
Brewer & Co.
Chambers Bros. Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co
Lancaster Iron Works
Manufacturers Equipment Co.
Potts & Co., C. & G.
Robinson, Frank H.
Steele & Sons, J. C.
Stevenson Co.
Toronto Fdry. & Mach. Co.

Time & Operetion Recorder
Brown Instrument Co.

Tractor, Gas
Barrett-Cravens Co.

Tramways (Aerial Wire Rope).
Link-Belt Company.

Transmission Machinery.
Hill Clutch Co.
Weller Manufacturing Co.

Transmission, Silent Chain.
Link-Belt Company.

Trucks.
Barrett-Cravens Co.
Lakewood Engineering Co.
Steele & Sons, J. C.
Toronto Fdry. & Mach. Co.
Weller Mfg. Co.

Trucks (Motor)
Packard Motor Car Co.

Trucks (Industrial, Electric)
Koppel Industrial Car & Eq Co
Lakewood Engineering Co.

Turntables.
Hadfield-Penfield Steel Co.
Lakewood Engineering Co.
Lancaster Iron Works
Robinson, Frank H.
Toronto Fdry. & Mach. Co.

Unloader.
Sunbury Mfg. Co.

Valves.
Crossley Machine Co.
Jenkins Bros. Co.

Wagon and Truck Loaders
Link-Belt Company.

Watchman's Clocks.
Taylor Instrument Companies

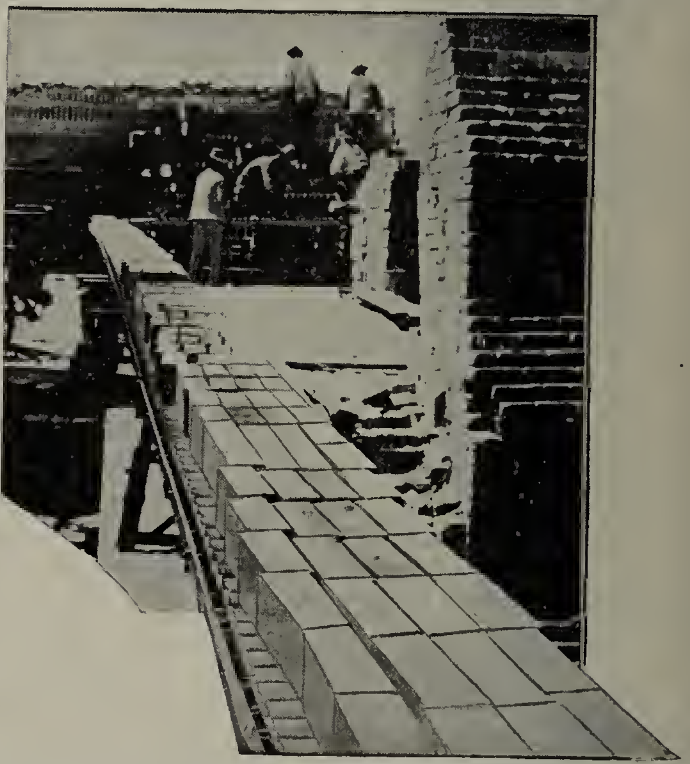
Wheels.
Robinson, Frank H.
Watt Mining Car Wheel Co

Wheelbarrows.
Bonnot Co.
Fate-Root-Heath Co.
Freese & Co., E. M.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co
Lancaster Iron Works, Inc.
Manufacturers Equipment Co
Robinson, Frank H.
Steele & Sons, J. C.
Toronto Fdry & Mach. Co.
Weller Mfg. Co.
Wellington Machine Co.

Winding Drums.
Fate-Root-Heath Co.
Hadfield-Penfield Steel Co.
International Clay Mchy. Co
Lancaster Iron Works, Inc.

Wire Cloth
Tyler Co., W. S.

Wire Rope.
Leschen & Sons Rope Co.
Manufacturers Equipment Co
Robinson, Frank H.



Faster Loading
With Less Labor

By accomplishing faster loading with fewer men, Mathews Conveyers effect a double saving.

Considerable increase in production would be necessary to produce sufficient profit to equal this saving.

With competition keener than it has been in years, there is need for exercising every economy—especially such marked economy as the Mathews offers.

5,200 Brick Per Man Per Hour With

MATHEWS
SPEED ECONOMY
GRAVITY ROLLER CONVEYER

This is the average rate of loading brick from kilns to cars with the Mathews Conveyer and three men.

No power is necessary; great strength is superfluous. The bricks travel of their own weight down a slight grade—straight or around curves.

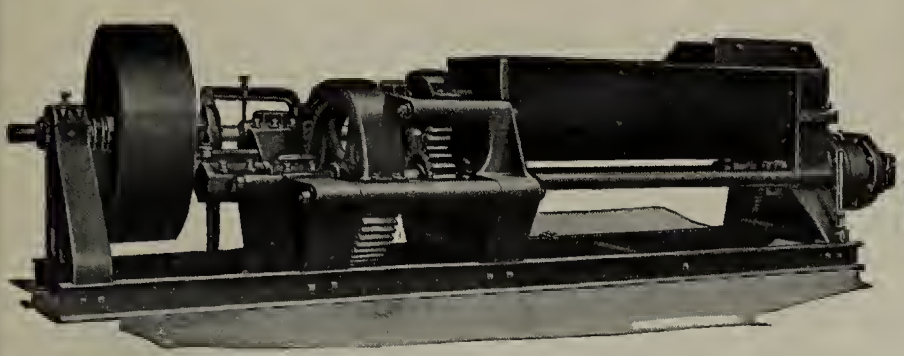
Mathews Conveyers are always ready for any job. They never complain of the hours or the pay; never ask for a day off. With both ends of the Mathews under cover, cars can be loaded in any weather.

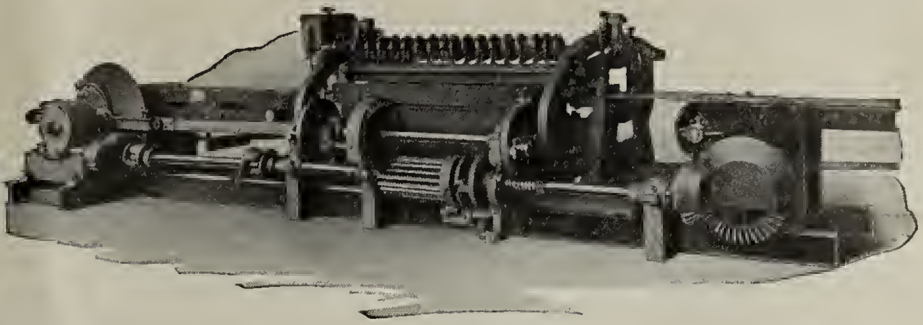
All steel construction—ball-bearing rollers—years of service with practically no expense. Furnished in straight and curved sections of convenient length, with quick couplings.

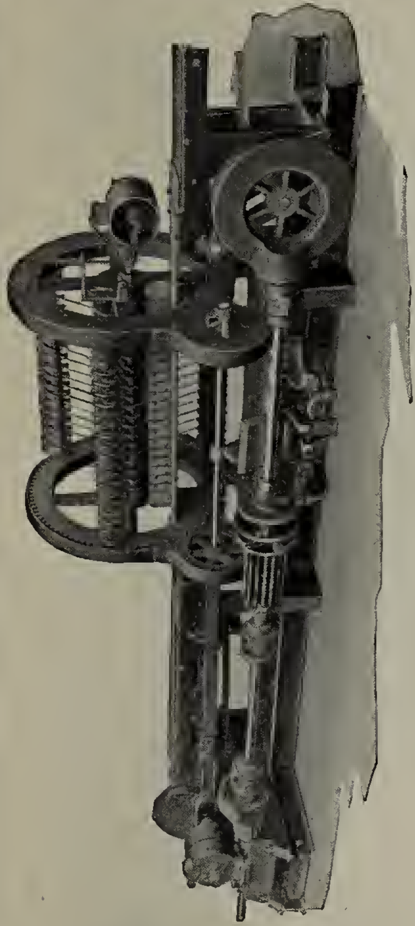
Write for Illustrated Catalog

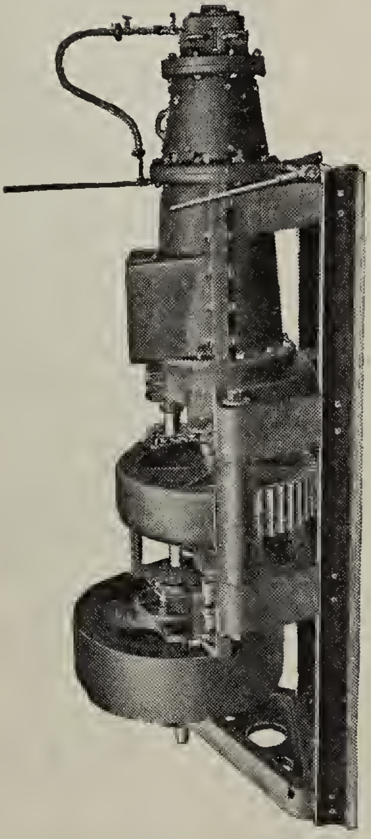
MATHEWS GRAVITY CARRIER COMPANY
Branch Factories: Port Hope, Ont., London, Eng. 108 Tenth St., ELLWOOD CITY, PENNA.

MATHEWS
SPEED ECONOMY
GRAVITY ROLLER CONVEYER







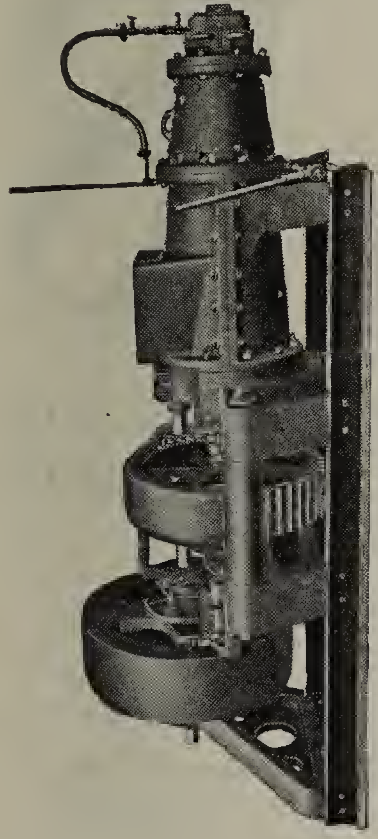


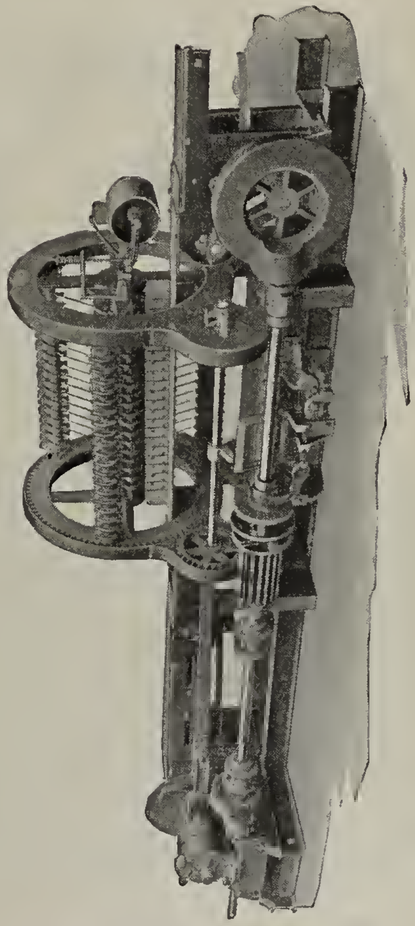
And at Pittsburgh

Harbison-Walker Refractories Co.
National Fire Proofing Co.
Gloninger & Co.
Booth & Flynn
McLain Fire Brick Co.
Fallston Fire Clay Co.
John H. Ward & Sons Co.
Kittanning Brick & Fire Clay Co.
Sankey Brothers.
Vanport Brick Co.
M. Lanz Brick & Tile Co.
Hooper Brothers Co.
Weinman Brothers
Clydesdale Brick & Stone Co.
Kittanning Buff & Gray Brick Co.
Walkers Mills Stone & Brick Co.
R. R. Lambert Co.
Pennsylvania Clay Co.
Pittsburgh-Callery Brick Co.
Squirrel Hill Brick Co.
Bessemer Refractories Co.

Operate Freese Machinery

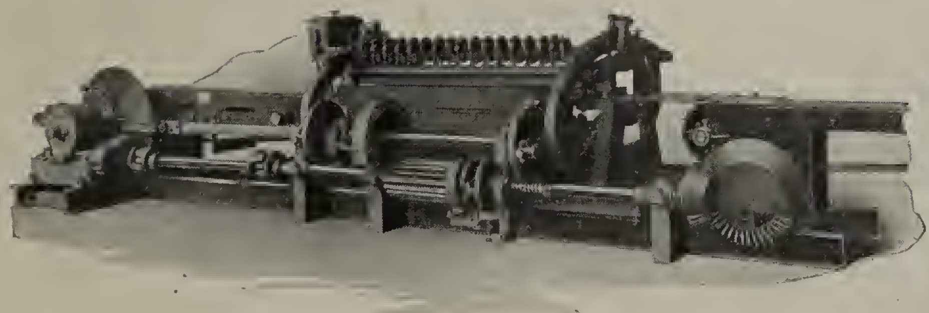
In the greatest stiff-mud clayworking center in the World, Freese Machinery predominates.

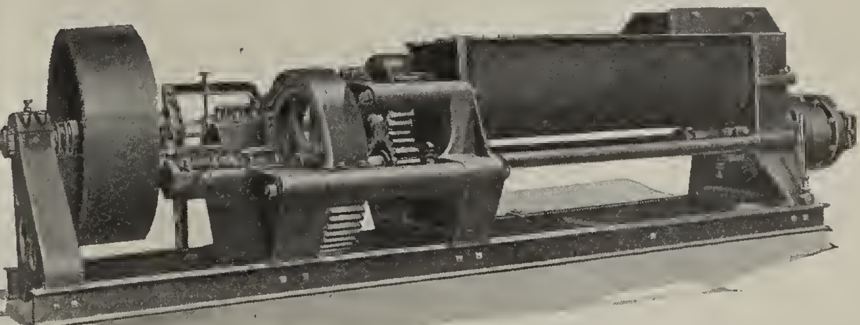




E. M. FREESE & CO.
GALION - - OHIO

Dependable Machinery of Proven Efficiency





Cut Your Payroll with a 1921

OSGOOD 18

With its added improvements, liberal dimensions and sturdy construction mounted on Traction or Continuous Tread can be equipped for Clamshell or Dragline service.

Don't delay! Find out about it NOW.
Write, phone or wire TODAY.
No obligation to you.

Revolving Steam Shovels
¾ and 1 yd.

Traction Type Steam Shovels
1½ and 2½ cu. yds.

Railroad Type Steam Shovels
1½-6 cu. yds.

Quality ***Service***

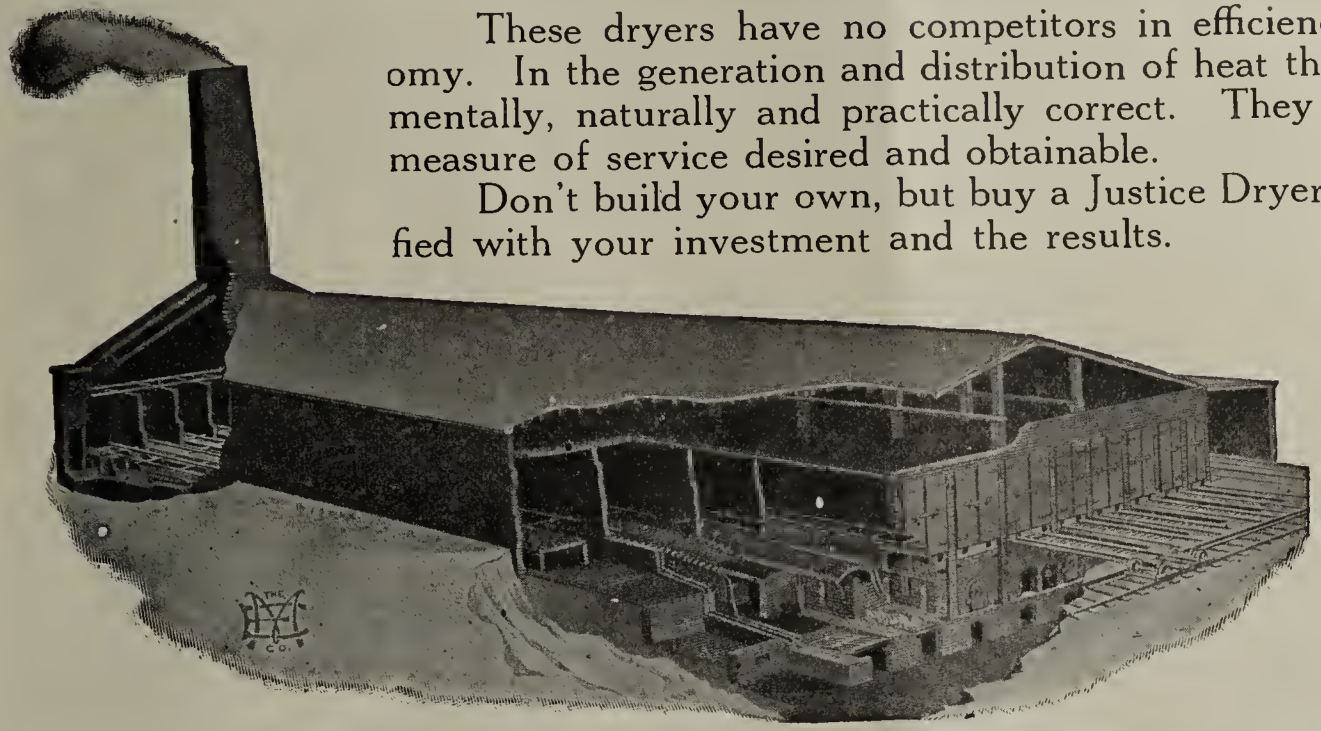
THE OSGOOD COMPANY
MARION, OHIO, U. S. A.

Branch Sales Office
1109 Land Title Bldg.
Philadelphia, Pa.

"THE BEST WAY" TO DRY YOUR WARE IS TO USE A JUSTICE RADIATED HEAT DRYER or a JUSTICE Single Fan WASTE HEAT DRYER

These dryers have no competitors in efficiency and economy. In the generation and distribution of heat they are fundamentally, naturally and practically correct. They give the full measure of service desired and obtainable.

Don't build your own, but buy a Justice Dryer and be satisfied with your investment and the results.



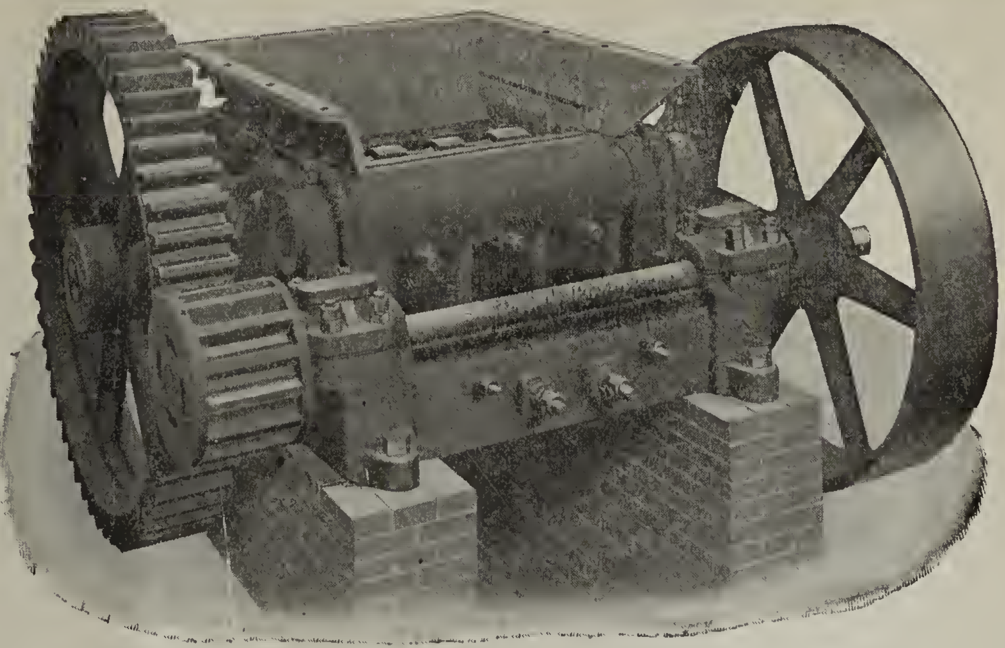
YOU CAN SEE ONE MOST ANYWHERE.

YOU CAN HAVE OUR DRYING LITERATURE FOR THE ASKING. IT IS VALUABLE.

THE MECO SINGLE ROLL ROCK AND SHALE CRUSHER

Is the Oldest and Newest machine of its type and class on the market today. Oldest because first to use a single roll working against a breaking plate, and Newest because fully up to date in modern form of mechanical construction.

They are never lacking in quality of material or workmanship. They are crushing ninety per cent of material now crushed in clay plants. Built in nineteen styles and sizes to suit any capacity.



Write for information on Automatic crushing outfits

THE MANUFACTURERS EQUIPMENT CO.

Dayton, Ohio, U. S. A.

Strickland Automatic Brick Machine

Fills a demand for an economical and efficient up-to-the-minute soft mud brick machine that will increase your output of MORE UNIFORM and EVEN BRICK with LESS LABOR and EXPENSE. A machine backed by a well-earned reputation for accuracy and BIG PRODUCTION.

SIXTY THOUSAND BRICK PER DAY is the rate The Cleveland Builders' Supply & Brick Co., Cleveland, Ohio, have been manufacturing brick with a STRICKLAND AUTOMATIC BRICK MACHINE.

This letter speaks for itself. READ IT—

"We purchased a Strickland Automatic Brick Machine during the early fall of 1920 and manufactured brick at the rate of SIXTY THOUSAND BRICK PER DAY continually until the plant was shut down for the winter. The use of the machine enabled us to produce MORE UNIFORM and EVEN BRICK than heretofore, together with SAVING US THE USE OF SIX MEN.

"We immediately placed an order for an additional machine and have just completed the installation, which will be in full operation in the near future.

"Everyone connected with our company is very much pleased with the result of this Strickland Dumping Apparatus and we believe we will equip all of our brick plants with same."

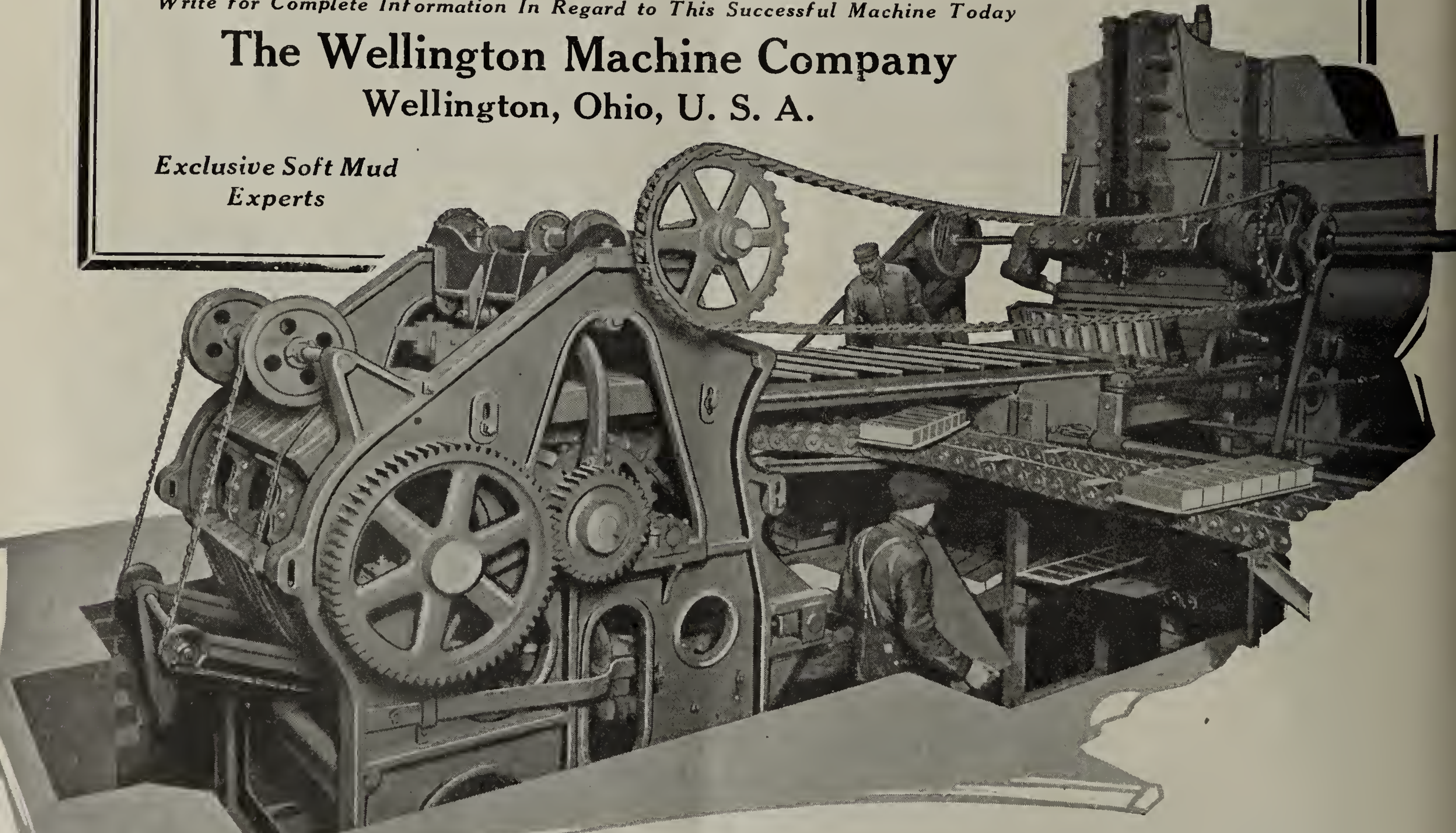
We have designed and built most of the leading soft mud plants of the middle west. Our engineers from practical brickyard experience can solve your problems, no matter how hard.

We make everything for the clay plant.

Write for Complete Information In Regard to This Successful Machine Today

The Wellington Machine Company
Wellington, Ohio, U. S. A.

Exclusive Soft Mud Experts



Classified Advertisements

Classified advertisements are inserted at the following rates: First insertion, eight cents per word, the captions "For Sale," "Wanted," and address, to be counted as a part of the ad. Additional insertions, six cents per word per insertion. No advertisement inserted for less than $1.00 per insertion. Cash must accompany all orders to insure insertion.

WANTED—HELP

WANTED—Salesman and Assistant Sales Manager—an experienced, high-grade and successful fire brick salesman for a territory now open. Also young man who has a good understanding of the fire brick business for sales correspondent and other sales, directing work in the home office. Excellent opportunity for right men. A. P. Green Fire Brick Company, Mexico, Mo. 6-2

WANTED—Superintendent for brick plant near Canton, Ohio, making 25,000 common brick daily. State experience and salary expected. Address: 6-2 Supt., care of "Brick and Clay Record." 6-2-1

WANTED—POSITIONS

WANTED
POSITION AS SUPERINTENDENT
Thoroughly capable and well recommended man desires to make change. Experienced in paving block, fire brick and hollow tile. Address: 5-3TC, care of "Brick and Clay Record." 5-3TF

WANTED—Position as Manager or Superintendent. Sixteen years with large company manufacturers highest grade fire brick, silica and magnesite. Now have entire charge of plant, clay and coal mines. Prefer South or California. Reference the ablest men in the business. Providing you have an A1 proposition where results will be rewarded. Write. Address: 6-2 Silica, care of "Brick and Clay Record." 6-2-1

An experienced fire brick man desires connection with fire brick company in the capacity of superintendent. Ohio preferred. Best reference. Address: 1-Fire Brick, care of "Brick and Clay Record." 1TF

WANTED—Position as superintendent of brick plant. I am a practical brick maker and employed at present, but desire making a change on account of climatic conditions. Address: 5-3BB, care of "Brick and Clay Record." 5-3TF

WANTED—Position as superintendent or Manager of Brick Plant. Can deliver the goods; 25 years' experience; understand glazing with reducing flame. Address: 6-2 Right Man, care of "Brick and Clay Record."

WANTED—EQUIPMENT

WANTED—Two Bonnot represses and four Quincy clay gatherers in good operating condition. Acme Brick Company, Fort Worth, Texas. 5-3-3

I thank your company for the good service rendered to me. As an advertising medium, I will say that your paper gets the results. Not less than 75 letters I received on three small ads.

WANTED—Bensing End Cutter, cutting 8½ in. or 12½ in. Merrick Brick Company, Inc., 606 S. A. & K. Bldg., Syracuse, N. Y. 6-2-2

WANTED—SMALL BRICK PLANT

WANTED—To Buy a small Brick Plant. Will pay cash. Must be a bargain. Address: 6-2Brick, care of "Brick and Clay Record." 6-2-2P

FOR SALE—BRICK PLANT

FOR SALE—Two-kiln pottery plant in Wisconsin, equipped to make tile and flower pots. Established business. Address: 5-3 Business, care of "Brick and Clay Record." 5-3-3

I thank your company for the good service rendered to me. As an advertising medium, I will say that your paper gets the results. Not less than 5 letters I received on three small **ads.**

FOR SALE

Brick plant manufacturing high grade face brick, with an abundance of shale; also desirable for making a high grade paver or vitreous tile. The plant is now operating, plenty of orders, very economical to operate, good railroad facilities and close to the very best markets in North Eastern Ohio and Western Pennsylvania.

Owner being engaged in other business, would prefer to dispose of his entire interest in this plant, but would consider selling a half interest to the right party, who could successfully manage it, or would consider an experienced manager who could put in at least $10,000 cash. Address: 5-3CUE, care of "Brick and Clay Record." 5-3-3

FOR SALE—BRICK PLANT AND SHALE LAND

Large brick Mfgr. plant situated on good railroad; 24 acres of shale, containing buildings and equipment, three Boyd presses, three Eagle dry pans, three boilers, Corliss engine, seven kilns, clay cars, hoist, horses and equipment, trucks for hauling brick. Address: 6-HAB, care of "Brick and Clay Record." 6-TF

FOR SALE—BRICK PLANT

A soft mud plant in developing section of Philadelphia; capacity, 22,600 per day. Can be purchased for small amount of cash on easy terms. Address: 6-Plant, care of "Brick and Clay Record." 6-2P

FOR SALE—Brick plant including forty acres, daily capacity twenty thousand brick. Analysis shows extra fine quality of shale and fire clay. Coal mine on land. Five down draft kilns, electric power, dry press machines. Outlook for sale of brick here unusually good. Big opportunity for a reliable brick man with money to invest. Local capital could be interested. No other brick yard in this county. Address Columbia Insurance and Rental Agency, Columbia, Mo. 6-2-2

FOR SALE OR TRADE—Brick plant and coal mine in Texas. 300 acres of land. L. C. Libby, Dallas, Texas. 6-2-1

FOR SALE—Sixteen kiln modern fire brick plant located in Southwest. Good materials for making all clay products. Can be bought right. Address. 6-2BR, care of "Brick and Clay Record." 6-2-3P

FOR SALE—USED MACHINERY

FOR SALE—Rebuilt four-mold Fernholtz dry press, Eagle 9-foot dry pan. Address: 7-2-Eagle, care of "Brick and Clay Record." 7-2-tf

FOR SALE—One No. 2 two-mould Chambers Brothers brick repress. Box 536, Niagara Falls, New York. 6TF

It will be unnecessary to continue our ad longer. The first insertion brought the desired results.

FOR SALE—1 Elwell-Parker and two Automatic Transportation Company two-ton elevating platform electric trucks equipped with Edison batteries. All are in good second-hand condition. Bargain. Address: 5-2 Trucks, care of "Brick and Clay Record." 5-2TF

SAND LIME BRICK MACHINERY FOR SALE

Sand dryer for steam, lime grinder, automatic sand and lime scales, friction gear for pulling cars out of chamber, 65 horsepower compound engine, two upright boilers, one 5 and 15 horsepower, elevators. Manistee Brick Co., Manistee, Mich. 6-TF

FOR SALE—J. D. Fate Bensing automatic clay cutter—complete with one extra cutting belt. Cuts 2¾ in .and 4¼ in.

Also one American No. 8 down cut board delivery hand-cutting table. Reasonable price asked.

Cannon and Company,
Box 281,
Sacramento, Calif. 4-2TF

Modern Brickmaking

By Alfred B. Searle

A complete treatise on the brickmaking industry, explaining all the modern methods of brick manufacture. This book contains chapters on the Nature and Selection of Clays; The Color of Brick; General Characteristics of Brick; Sand, Breese and Other Materials; Hand-Brickmaking; Plastic Molding by Machinery; Mixers and Feeders; Drying; Kilns; Kiln Construction; Vitrified Brick for Special Work; Fire Brick and Blocks; Glazed Brick; Perforated, Radial and Hollow Brick; Molded and Ornamental Brick; Drying Raw Clay, etc., etc.

This new and revised edition contains 500 pages, 6½ x 10, and 310 illustrations. Price, $7.00, postage paid.

On Sale thru BRICK AND CLAY RECORD'S book department, 610 Federal Street, Chicago, Ill.

BARGAINS IN CLAY WORKING MACHINERY.

Three complete outfits for soft and stiff-mud brick plants; one American sewer pipe press, complete with steel frame; one American 9 ft. dry pan; 1 Stevenson 8 ft. wet pan; one 10 ft. and one 7 ft. iron pug mill; one steam, steel and iron constructed hoist; one automatic hoist for use in buildings, used with cage for hoisting to second or third floors; three 7ft. wet pans; one four-mold Boyd dry press; one practically new 10 in. by 20 in. mounted Good Roads jaw crusher with elevator; one Rogers 10 in. by 26 in. jaw crusher; one "Quaker" soft-mud machine with mold sander; 1780 black flat steel pallets, 10 in. by 34 in., at 25 cents each. C. H. Horton Co., Painesville, Ohio. 5-2-TF

FOR SALE

Steam shovels, dragline machines, locomotives, cars, crushers, pulverizers, dry pans, engines, boilers, electric sets, cranes, derricks, hoists, dryers, washers, screens, elevators

J. F. Donahoo Company,
Birmingham, Ala.

FOR SALE

1 J. D. Fate combination pug mill for brick or tile; capacity, 50,000 brick per day.
150 tons new 90 lb. ASCE Rails.
50 steel tanks (round), 100 to 3,000 gal. capacity.
150 ft. of 12 in. leather belting, 75% off list.

Write for list of Machinery and Prices.
The Elyria Belting & Machinery Company, Elyria, Ohio. 6-2

FOR SALE—An Automatic Freese brick cutter—complete; model T-60, serial 611, practically new. Equipped to make Dunn patented paving brick. Continental Clay Products Company, Munsey Building, Washington, D. C. 4-2-8

FOR SALE—One J. D. Fate Co. brick and tile machine with dies; also one American cutter, all in good repair. Algood Brick Co., Algood, Tenn. 5-2-4

FOR SALE—One Chambers large size end cut brick machine; one new Steele & Sons brick machine—latest model, never used. No. 0 Thew shovel, in good condition. One crude oil-burning equipment; one new Crawford & McCrimmon waste heat fan—never used. Lot of 6 wooden brick moulds. Lot grate bars, 4 ft. 2 in. and 2 ft. 8 in. long, 1¾ cents per pound; 5 sets 18-inch spoke pattern chilled car wheels. Address: 4-GFE, care of "Brick and Clay Record." 4-TF

FOR SALE—One Raymond-Eagle two-mould Repress. Good as new. G. P. Dammon, New Waverly, Texas. 6-2P

BRICK MACHINERY FOR SALE

1 American Clay Machinery Co.'s No. 599 dry press machine, new—never used, with American clutch pulley.
2 wet clay elevators with driving pulleys.
1 No. 87 piano wire screen.

Address Oliver Brothers, Inc.,
97 Warren St.,
New York City, N. Y.
4-2TF

Big Bargains

7x12 Davenport, 36 in. gage Saddle Tank
9x14 Vulcan, 36 in. gage Saddle Tank
12—Western 4 yd. 36 in. gage Dump Cars
10—Western 1½ yd. 24 in. gage Dump Cars
1—Thew "O" Traction Shovel—⅝ yd. dipper
1—3 ton Plymouth Loco. 24 in.—36 in. or 4 ft. 8½ in. gage.

RAIL-TRACK ACCESSORIES

250 tons New 12 to 30 lb.
1000—Steel ties—24 in. gage for 20 or 25 lb. rail

Angle bars, Fish plates, Frogs, Switches, Spikes, Bolts, Lockwashers, Cross Ties.

ZELNICKER IN ST. LOUIS

Balance Listed in Bulletin 290—Get it now.

FOR SALE

1 Martin soft mud brick machine; practically new.
4 Western dump cars, 24-inch gauge; good condition.
1 No. 3 National screen; practically new.

Address: G. P. Fisher,
Ottawa, Illinois. 5-2-4

FOR SALE—Snap if taken at once. One 11x24 Murray-Corliss steam engine by Murray Iron Works. Belt drive to one Ideal 62½ K V A, three phase, 60 cycle, 750 R.P.M. generator complete with Westinghouse Exciter, fully equipped switchboard, making complete plant. Address: Department "B," Box 59, Waterloo, Iowa. 6-2-3

BRICK MACHINERY FOR SALE

Arnold-Creager Automatic and SSS, Potts, Martin, Hercules brick machines; International hollow ware machine; 14 and 16 ft. pug mills; Freese, Brewer, and Steele automatic brick cutters; Bensing tile cutters; triple deck dryer cars; 4 bucket elevators; waste clay conveyor; Fate clay feeder; 7,000 galvanized pallets, 10x34; 27,000 A-1 white pine pallets, 10x34; 48 in. by 40 ft. rotary dryer; tailing crusher; Potts compound crusher; disintegrators; American, Frost, McLaren dry pans; 2, 4, 6 mold Boyd dry presses; 2 mold sanders; dryer fans; dryer fan with engine direct-connected; ¾ yd. Thew traction steam shovel; steam engines, 30 to 100 H. P.; 500 H. P. Corliss; Chandler and Taylor, 200 H. P. twin; boilers; 15, 30 and 42 thousand brick capacity pipe rack dryers; fully equipped brick yards. Write for prices on brick molds, barrows, trucks, etc.

Frank McClellan,
14624 Ardenall Avenue,
East Cleveland, Ohio. 5-TF

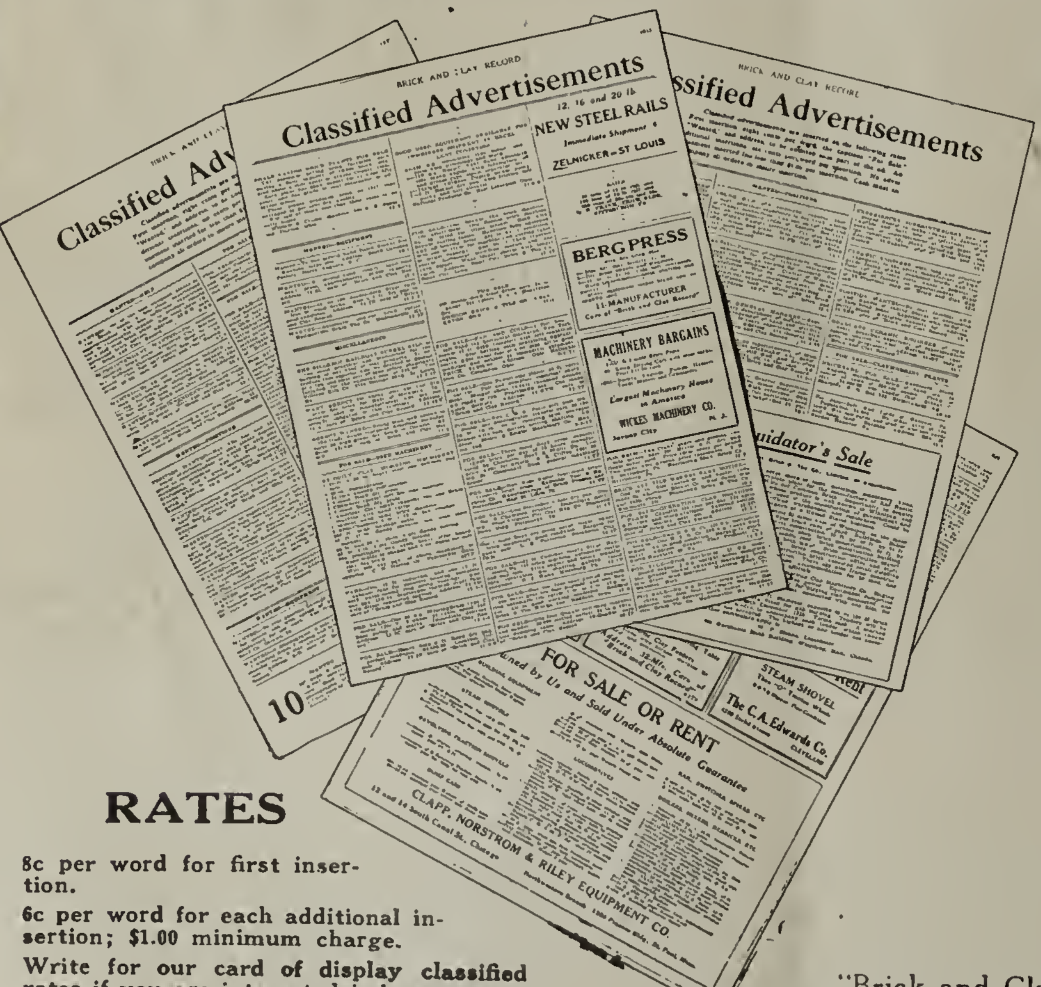
RAILS FOR SALE

25 tons of 16 lb. rail.
150 tons of 35 lb. rail.

Also large quantity of spikes, frogs, switches and cars suitable for clay mine and brick yard.

Also large quantity of all sizes of relaying as well as new rail in stock.

M. K. Frank, Frick Bldg., Pittsburgh, Pa.


Classified Advertisements
Classified Advertisements
Classified Advertisements
NEW STEEL RAILS
ZELNICKER—ST. LOUIS
BERG PRESS
MACHINERY BARGAINS
WICKES MACHINERY CO.
Liquidator's Sale
FOR SALE OR RENT
Sold by Us and Sold Under Absolute Guarantee
STEAM SHOVEL
The C.A. Edwards Co.
CLAPP, NORSTROM & RILEY EQUIPMENT CO.
10

Results! Results!

Classified ads in "Brick and Clay Record" produce **results.** Concerns like Fraser Brick Co., The Chanute Brick and Tile Co., Sphar Brick Co., and scores of others have written to tell us so. Below we quote from a few of the many complimentary letters received:

> "Kindly discontinue this ad, as we sold all the car racks the first of the month, thanks to your good publication."
>
> "Results obtained are so satisfactory that it will not be necessary to reinsert the advertisement."
>
> "I thank your company for the good service rendered to me; as an advertising medium, I will say that your paper gets the results. Not less than 75 letters I received on three small ads."
>
> "We wish to compliment you on the good results obtained thru advertisement carried in the 'Brick and Clay Record'. We carried our advertisement in several different publications, and ad carried through your columns is the only one that brought us results."
>
> "Had excellent results from the ad, and have purchased everything I need at the present."

RATES

8c per word for first insertion.

6c per word for each additional insertion; $1.00 minimum charge.

Write for our card of display classified rates if you are interested in larger space.

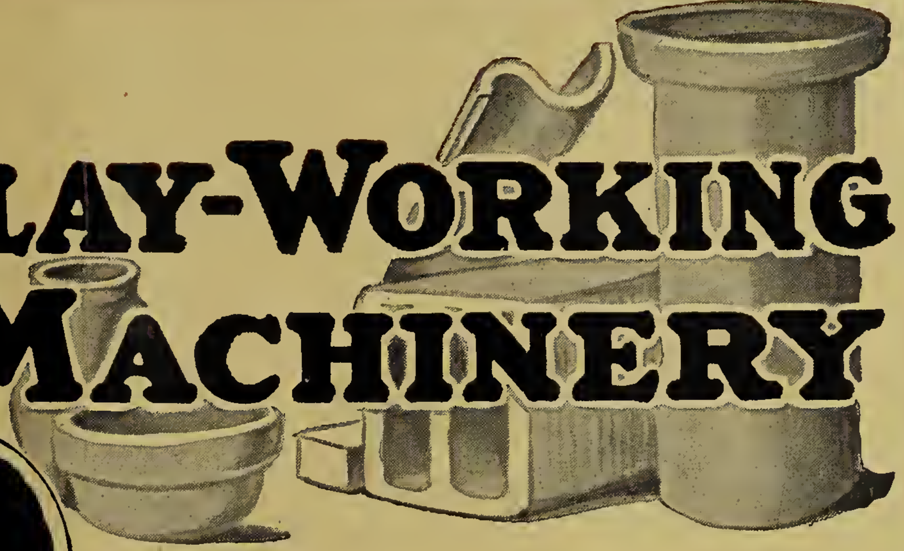
"Brick and Clay Record" is published every other Tuesday —no long waits between issues. Send in your order now.

BRICK AND CLAY RECORD, 610 Federal St., Chicago, Ill.

PLYMOUTH

Fate

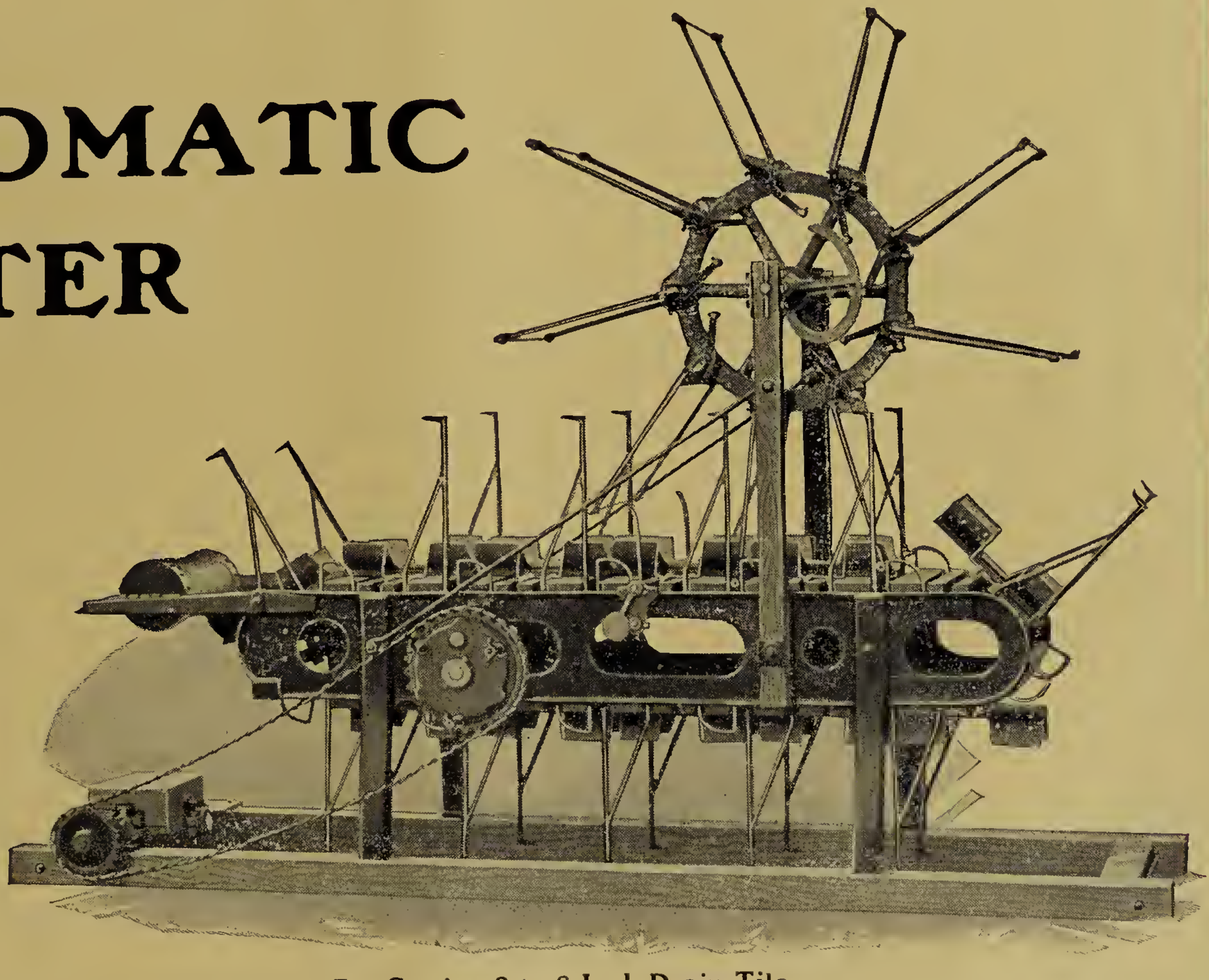
CLAY-WORKING MACHINERY



Honor built for the ages

AUTOMATIC CUTTER

TYPE 2-AT

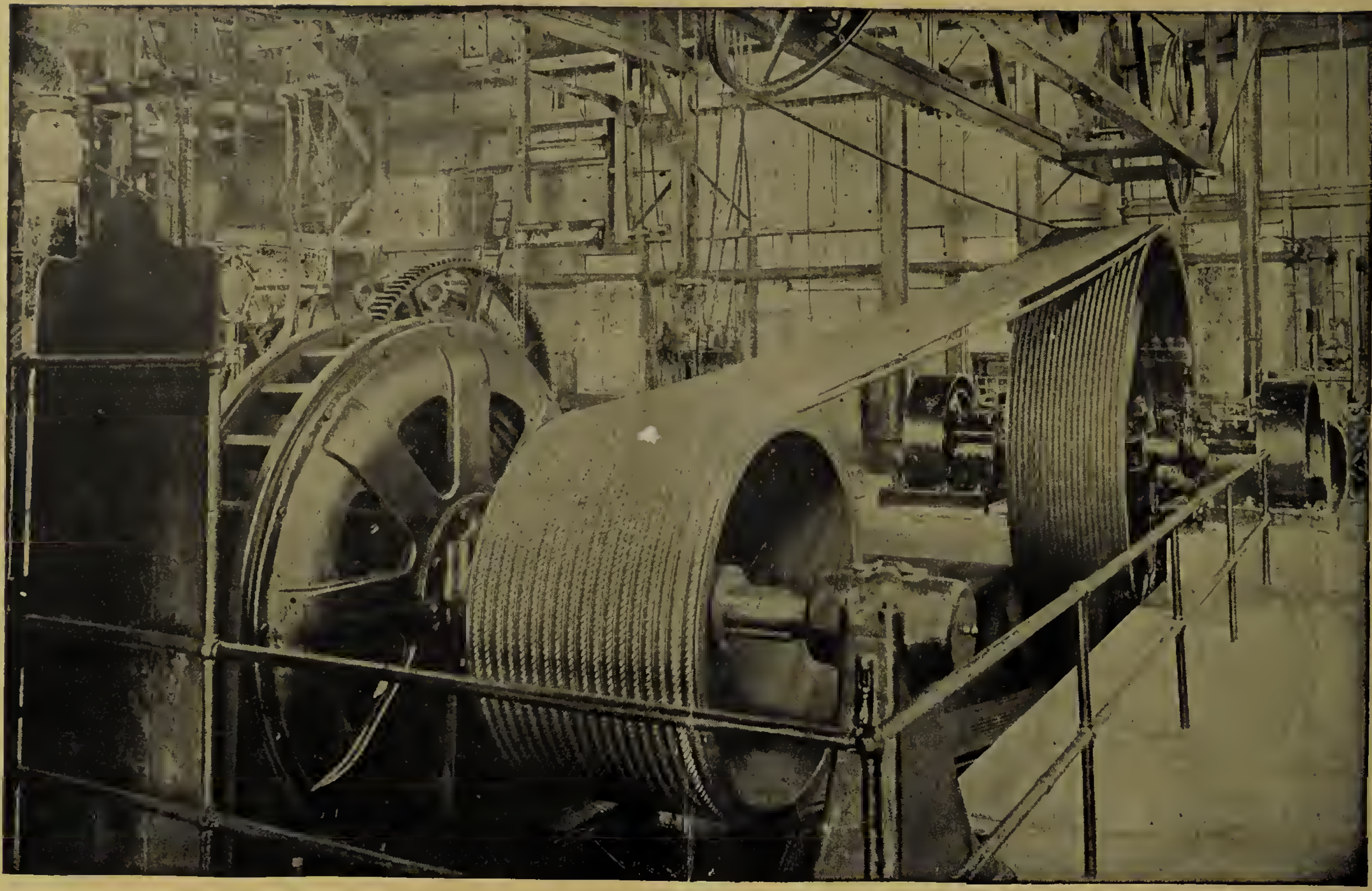


For Cutting 3 to 8 Inch Drain Tile

This cutter may be supplied with double stream scoops for 3 and 4-inch drain tile Made also with flat platens for building tile. Cuts column of clay 10 inches high and 11½ inches wide. May be built 2 inches wider than regular, thus cutting 13½ inches wide. Regular length cut is 13 inches, but built for any length from 10 to 18 inches.

We invite your inquiry on Cutters & Clay Machinery

THE FATE-ROOT-HEATH CO., PLYMOUTH, OHIO



High-efficiency generation of electric power with rope drives

For large generator installations where the slightest inefficiency in the transmission of power from the driving force to the generater is costly, Dodge Rope Drives have advantages that other methods of power transmission cannot present.

Rope drive flexibility is unequaled. The same efficiency obtains whether the sheaves almost touch or are at a distance; whether they are in line or around a corner and at an angle.

Under overloads rope drive efficiency increases rather than decreases.

A thousand horsepower rope drive is quieter than a six-inch belt.

These things alone make a choice of generator drives unwise until the Dodge Rope Drive is thoroughly investigated.

DODGE

Dodge Sales & Engineering Company

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and the Dodge Steel Pully Corporation

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